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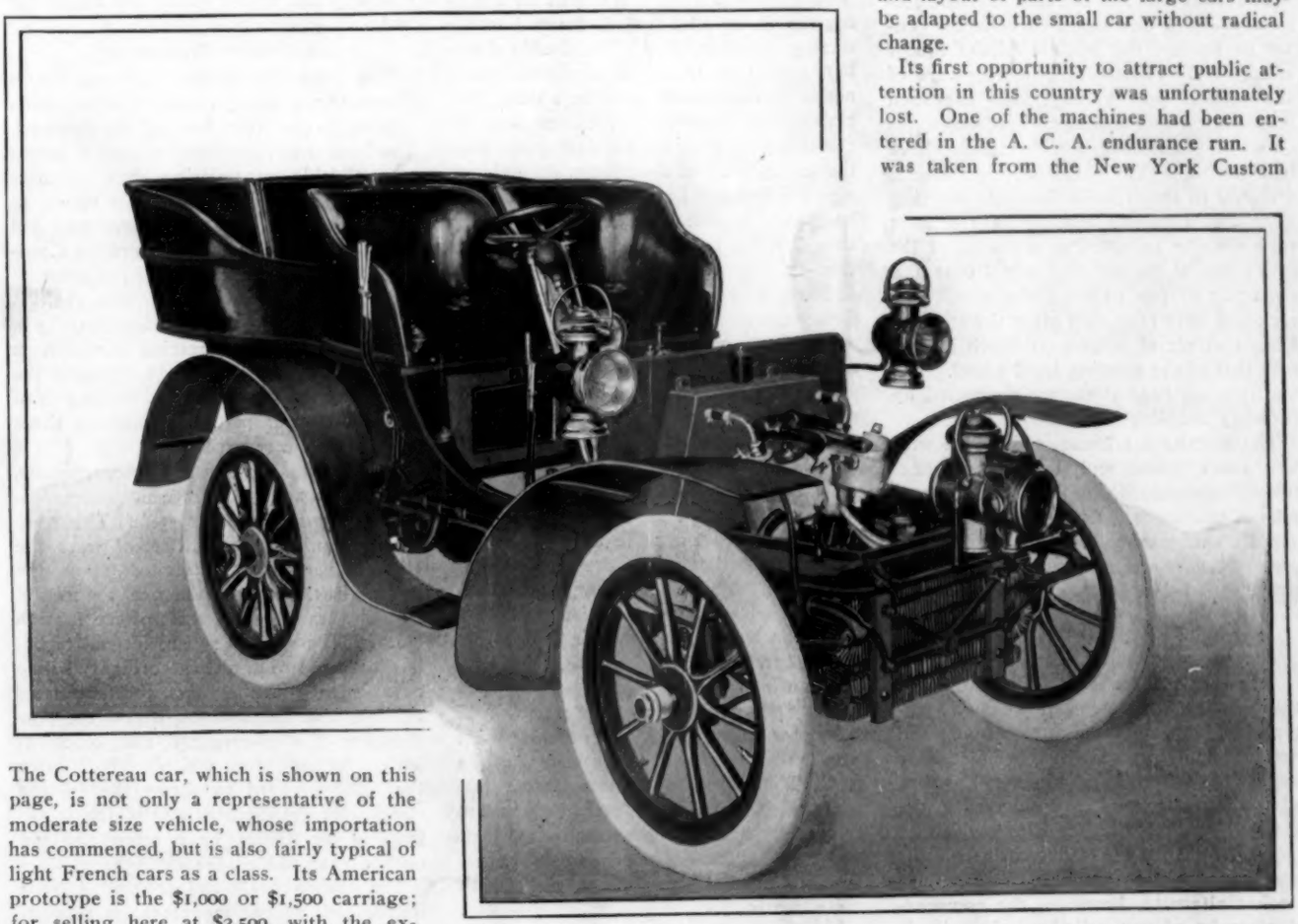
A Typical French Light Car

PROGRESSING with the other branches of the American automobile trade, the importation of European vehicles, particularly of French cars, has reached a stage which comprehends the handling of small vehicles, as well as of large, powerful racing and touring cars. The Cottereau car, which is shown on this page, is not only a representative of the moderate size vehicle, whose importation has commenced, but is also fairly typical of light French cars as a class. Its American prototype is the $1,000 or $1,500 carriage; for selling here at $2,500, with the extremely high duty and importer's expenses and profit included, it represents in its home market the corresponding class of moderate price French cars.



It shows fairly the general differences between French and American vehicles of this class. It shows, further, how the trend of construction in large, high-powered cars in France has had a greater effect upon the design of small cars than in this country; the corollary deduction being that the French trade has been quicker to leap to the conclusion that the general lines of the large cars should be adapted to all weights than has the American trade, in which there is a marked distinction in general principles of construction between the small and the large classes of vehicles. While the Cottereau is typical of the French light car, one of the several American vehicles of somewhat similar lines is not typical of the small American light car, which is more truly characterized by vehicles more nearly approaching the shaftless carriage style of design. Imported only in the 10-h.p. size, the Cottereau serves best as an example of how the general style of construction and layout of parts of the large cars may be adapted to the small car without radical change.

Its first opportunity to attract public attention in this country was unfortunately lost. One of the machines had been entered in the A. C. A. endurance run. It was taken from the New York Custom House the afternoon before the event and started in the contest without having had the advantage of the necessary "limbering up" process. The motor was stiff and became overheated, so that a few stops to allow it to cool were forced; accordingly, the run was not satisfactory. After the same car had worked the newness out of

its system, however, it showed itself to be a reliable and smoothly running carriage.

Stiff Tubular Frame

The running gear of the Cottereau is that of a large French machine in miniature. The track is a few inches less than the standard American track. The wheel base is comparatively long, being 70 in. The artillery pattern wood wheels are slightly over 30 in. in diameter, being made to the metric system, and are fitted with 3½ tires. The frame is a simple rectangle of heavy steel tubing and is mounted upon four half elliptic springs. The side bars of the frame are continued and curved downward in front to form the equivalents of "pump handle" supports for the forward end of the front springs. The rear ends of these springs and both ends of the rear axle springs are secured to ordinary links pivoted on brackets depending from the frame. The rear wheels are mounted upon a live axle, which is within an untrussed sleeve or tubular stationary axle.

The front axle has the characteristic European dip or downward curve in the center to protect the bottom of the motor crank case. The steering knuckles are of the vertical post variety, with the stem mounted on ball bearings. The stub axles on which the steering wheels run also have ball bearings. The actuating lever arm is attached to the stem of the right steering head and connects directly with a gear rack slidably mounted in a casing at the lower end of the steering wheel post and engaging a spur gear on the post. The rack and gear reduction gives the steering wheels an arc of movement which is one-fifth that of the steering hand wheel. The two steering head stems are connected by ordinary coupling rods.

The rectangular frame is provided with two cross tubes and two longitudinal tubes, extending from the forward cross tube to the front end frame tube. These supplementary tubes serve the double purpose of braces and supports for the motor and transmission gear.

Inclined Motor Cylinders

The double-cylinder, four-cycle motor is supported between the two longitudinal brace tubes, and is of a pattern seldom used in automobiles of current manufacture. Its cylinders are inclined at an angle of about 45 degrees, while the piston rods are connected to the shaft by cranks so disposed to each other that both pistons move outwardly and inwardly at the same time. The impulse strokes alternate, however; the compression stroke of one cylinder being simultaneous with the exhaust stroke of the other, and, correspondingly, the impulse or ignition stroke of the former being at the same time as the suction stroke of the latter. The bore and stroke are substantially the metrical equivalent of 4½ by 5 in. Each cylinder is cast in one piece with the head and valve chambers. The normal speed of the motor is from 1,000 to 1,200 revolutions.

There is nothing unusual about the water cooling system, which includes the regular French front end radiator of the continuous coil pattern. The circulation is by means of an ordinary rotary pump under the left side of the motor and driven by friction from the periphery of the fly wheel. The water tank is between the dashboard and the motor and is partly above the latter. Should the pump become accidentally inoperative a thermo-syphonic circulation of the water will continue as long as the level in the tank is above the motor.

All running parts of the motor are oiled by splash lubrication from the crank case into which the oil is injected by hand from an oil cup and pump on the dashboard.

The Carbureter

The carbureter is a hint at the probable increased use of alcohol as motor fuel in France. It is not only large, but is heated and provided with means for warming the air used before it is drawn into the mixing chamber. It is of the double chamber, float feed type, and is placed underneath the frame near the latter's side. The carburation chamber is jacketed and receives a portion of the exhaust gases from the left cylinder of the motor, the exhaust pipe being tapped and fitted with a small by-pass. Opposite to the side into which this exhaust by-pass leads, the carburation chamber is fitted with a discharge opening and pipe, the latter projecting downwardly. The tube for the admission of air has a wide flaring end, which extends almost to contact with the exhaust pipe that extends rearward along the side of the vehicle frame. On account of the small space between the exhaust pipe and the wide end of the carbureter air tube, the air drawn into the latter must necessarily pass over the surface of the exhaust pipe, becoming heated in doing so.

The double heating of the carbureter is infrequent. There are examples in both Europe and America of assisting the vaporization by warming the air drawn into the carbureter; as, for instance, the Autocar, in which the air inlet tube extends to within a short distance of the rear wall of the water tank, across which the air must pass and be heated before entering the tube. There are frequent examples in Europe of jacketed carbureters, which are heated either by water or motor exhaust. The combination of the two warming systems is more unusual, however. With some means for furnishing initial heat prior to the starting of the motor this carbureter would become a typical alcohol carbureter. The regulating needle valve is connected by a lever arm and connecting link to a rod which extends upward alongside of the steering post.

The delivery pipe from the carbureter leads to a fuel regulator, which is placed in front of the dash and from which two pipes lead to the respective induction valve chambers. The regulator is automatically operative by a rod extending upward from a centrifugal governor within the fly wheel. This regulator can be cut out to allow the engine to race by pressing the left foot upon a pedal close to the dashboard and which connects by bell cranks and links with the governor. The cut out mechanism is normally kept out of action by a coil spring.

Exhaust Valve Timing

The exhaust valve gears and cams are contained within a forward extension of the crank case and in combination with this mechanism are connections with the spark advancing mechanism, whereby when the spark is advanced the exhaust valve opening is likewise advanced automatically. The lever arm controlling the spark lead is connected by a long link with a semi-circular lever arm, which is attached to the lower end of a rod extending upward along the steering post on the side opposite to the carbureter regulating rod.

Sliding Gear Transmission

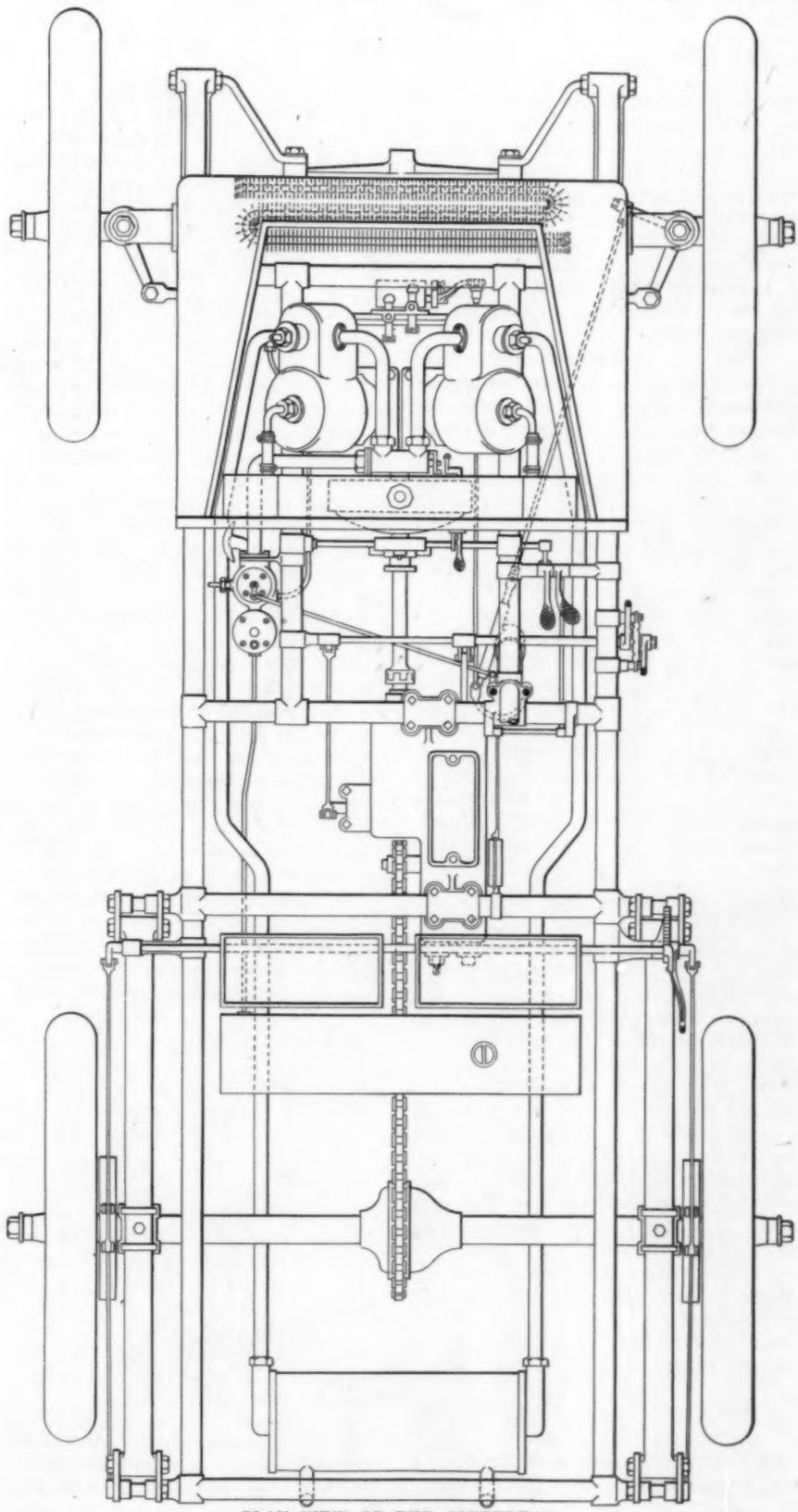
The transmission from the motor is through an ordinary conical friction clutch applied to the rear face of the flywheel. The leather covered friction cone is keyed to a slidable transmission shaft which is pressed forward by means of a spring to throw the clutch into engagement, and which may be drawn backward to disengage the clutch by means of the inner of the two right foot pedals. The shaft is connected to the transmission gear by a universal joint. The gearing is within an aluminum casing supported between the two cross frame braces. Its gearing is of the sliding spur pattern, furnishing three forward and a reverse drive.

The gear casing is in two compartments, the forward and larger of which accommodates the speed change system. This comprises the usual two-shaft set of gears, the sliding gears being mounted upon the lower shaft, which is the one connecting with the transmission shaft of the friction clutch. The shaft is square instead of being feathered to afford the ordinary spline engagement with the gears, and terminates against a hardened block within the rear chamber of the casing. The block is backed by the spring which tends to force the shaft forward to throw the friction clutch into engagement and which is adjustable for tension by a screw and nut on the rear end of the casing.

The sliding gears are controlled by a simple fork, whose movement is regulated by a sliding rod that projects from the forward end of the casing. Its end is attached to a lever arm depending from a sleeve upon a cross shaft mounted in hangers attached to the vehicle frame. This sleeve may be rotated to actuate the speed gear shifter by means of the inner of the two side levers. The lever is pro-

vided with a notched sector to secure it in any position, there being four notches, one for the disconnection point and the other three for the different speeds.

The cross shaft upon which the speed lever sleeve is mounted carries the outside or reverse lever and operates, by lever arms and connecting rod, the reverse gear of the transmission mechanism. The upper or driven shaft of the transmission gearing extends into the rear chamber and terminates in a bevel gear, which drives the crosswise countershaft. The left end of this shaft is fitted with a sprocket, over which runs the central driving chain, extending over the sprocket on the live rear axle differential gear. The opposite, or right, projecting end of the countershaft carries a double acting band brake, which is operative by the outer of the two right foot pedals. The operator by simultaneouly pressing upon this pedal and that for the friction clutch can disconnect the gearing and at the same time apply the brake. The hand brakes are the usual band brakes upon rear axle drums and are operated by a right-hand lever, as shown plainly in the plan view herewith.



PLAN VIEW OF THE COTTEREAU

The muffler is carried underneath the extreme rear end of the frame, the exhaust pipes running along either side to the corresponding ends of the muffler. The gasoline tank, which holds about eight gallons, occupies the back half of the space under the driver's seat. The forward half of this space is formed into two boxes, each with a hinged door on its front face. Within the left side box are carried the storage battery cells which furnish the ignition current. The other box is used for a tool receptacle. The induction coil is carried in a box on the dashboard.

On account of its greater clearance, the Cottereau is better suited to American roads than many French cars, while its general lines and style are nearer the American notion in such things than are those of some of the European cars, excellent though they may be in operation and service.

NO LAKE SUCCESS SPEEDWAY

The work of improving the land bordering on Lake Success, Long Island, recently purchased by W. K. Vanderbilt, Jr., has already begun. It has been intimated repeatedly that the plans contemplate the construction of an automobile track to encircle the lake. This, however, appears to be impossible, since the entire lake belongs to the town of North Hempstead, having passed to the town of Hempstead by treaties made with the Indians by the officers of the town in the sixteenth century, and to North Hempstead by transfer of title in 1674. To secure its rights to the lake, the town reserved three approaches, two of 150 ft. on the east side, and another on the southern border. Ten years ago Stephen Cornell, who owned the property recently bought by Mr. Vanderbilt, attempted to close the southern road, but the town authorities forced him to remove the fences. A number of prominent citizens of North Hempstead are now agitating to have enough land condemned for the building of a public drive around the lake. Mr. Vanderbilt's plans contemplate the construction of a drive around the eastern and southern sides of the lake.

The Gasoline Vehicle

VI. IGNITION SYSTEMS—THE JUMP SPARK

The essential features of the secondary or jump spark system are the spark coil, the trembler or circuit breaker, the spark plug, and—the insulation. If the engine has more than one cylinder, a separate coil and separate secondary circuit is preferably provided for each cylinder. Of the spark coil little need be said, except to remark that any coil must be carefully proportioned to its work, and that any but the best of workmanship is worse than useless in it. The amateur who builds his own engine will usually save money and trouble by buying his coil ready-made of a reputable maker. The circuit breaker may take the form of a magnetic vibrator on the coil, working like the armature of an electric bell or buzzer, in which case a stream of sparks will be obtained as long as the circuit is closed elsewhere; or the vibrator may be omitted, and a cam on the two-to-one shaft operating the exhaust valve may press a spring against a contact and suddenly release it. This will give but one spark, and, except possibly in starting, one should be enough. On the theory, however, that if the first spark does not ignite the next one will, the vibrator is popular. Where it is used, it is customary to use a commutating arrangement on the two-to-one shaft, in order that the circuit may be closed only during the first part of the combustion period, in order to save current. With more than one cylinder there is a spring contact for each cylinder, giving an arrangement like that shown in Fig. 1 for a four-cylinder engine. In the figure A is the cam shaft, and BBBB are four "brushes," each carried by an insulated block C, from which the current goes by wire to the several coils, D is an insulating ring containing a brass segment, in electrical connection with the battery, either through the engine framework (as shown) or through a fifth brush bearing on a metal ring next to the insulating ring. E is a metal plate concentric with the shaft and free to rotate about the latter through a suitable arc, by which means contact is made early or late according to the spark timing desired. FF are binding posts to connect the wires. Usually this plate is controlled by the operator, though it may be connected to a centrifugal governor on the engine if desired, in which case the ignition lead is automatically increased to suit the speed.

Sometimes, in place of the rubbing contact shown in Fig. 1, the shaft carries a cam, which presses flat springs (in place of brushes) outwardly against platinum-tipped contact screws carried in insulated blocks. This is open to the objection that more or less dirt will get on the contact surfaces unless they are kept clean by rubbing, and thus some pressure may be required to make contact. If this happens, the vibrator on the coil may not begin to vibrate till later than it is supposed to, giving an uncertain timing.

The Trembler

Where the engine has but one or two cylinders, a combination of timing cam and vibrator frequently takes the place of the separate mechanisms. Fig. 2 shows the "trembler" of the De Dion bicycle motor. A is the cam, rotating in counter-clockwise direction; B is a flat spring with a small weight at its end, rubbing on the cam; C is an adjustable contact screw in an insulating bushing. The cam holds the spring normally out of contact with the screw, but when the notch in the cam is reached the weight drops into the notch, causing the spring to vibrate for a moment against the screw. The whole is mounted on a flat base D of insulating material, surrounded by an aluminum case E with a cover (not shown) of the same metal. As in Fig. 1, the base may be rotated through a suitable arc about the shaft, to vary the timing of the spark. For two cylinders, and sometimes for more, the base is made large enough to carry two or more trembler springs suitably disposed.

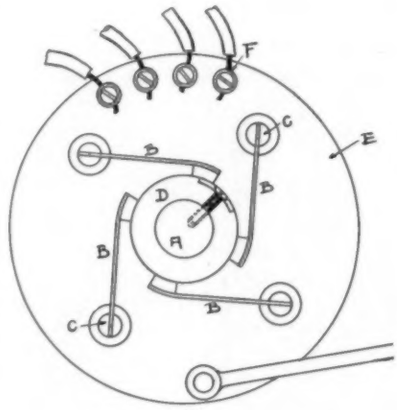


Fig. 1

The Spark Plug

Of spark plugs there are many varieties, all of which comprise broadly the elements of a central stem having at its outer end a connection for a wire and carrying a sparking point at its inner end, an insulating bushing of porcelain, lava or mica, surrounded by a metal sleeve exteriorly threaded to screw into the cylinder and in electrical connection with another sparking point at its inner end. The stem is made air-tight in the insulating bushing, and the latter in the metal sleeve, by suitable packing or (in the former case) sometimes by cement. One of the secondary terminals of the spark coil is "grounded" on the engine, and the secondary current goes from the coil to the stem of the plug, across the air gap between the points, and by way of the engine back to the coil. An American plug, the Desberon, is shown in section in Fig. 3. It has two porcelains, drawn together by a bolt, with asbestos washers at all points of pressure. Fig. 4 shows a modification of the Benz spark plug. In this there is a hollow space back of the sparking point, which is surrounded by a metal wall with a thin edge where the spark jumps. The protection given by this metal enclosure is thought to reduce the liability of the inner end of the porcelain to foul and short-circuit.

By reason of the very high tension of the secondary current, it is very difficult, especially at the plug, to confine it to its proper path. If water gets on the outside of the plug, the current will follow the water over the surface of the porcelain, rather than jump the air gap; and the same effect may be produced by dirty oil or by a deposit of carbon or burnt oil on the inner end of the plug. This "short-circuiting" is particularly apt to occur when the gas in the cylinder is highly compressed, as an electric spark has much more difficulty in traversing compressed than rarified gas. For these reasons only the best of insulating material will do—porcelain being usually preferred—and it is of the first importance to keep it clean and prevent it from becoming fouled by imperfect combustion or an excess of oil.

To offset the bad results of failure to maintain correct running conditions in these two last-named respects, is the fact that the jump-spark system is mechanically extremely simple. It requires no moving parts inside the cylinder, the plug can readily be taken out for inspection or renewal,

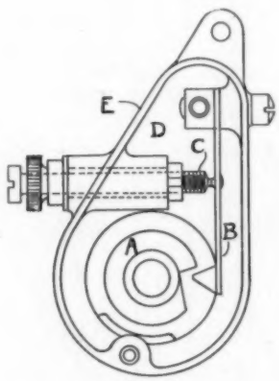


Fig. 2

* *The series on "The Gasoline Vehicle" was begun in the issue of June 7. Although treating of a common subject, the several articles will be self contained, so that any of them may be read without reference to others of the series.*

and the system is peculiarly adapted to high speeds, by reason of the absence of heavy moving parts, stiff rubbing springs, etc., and because the spark lead may be varied without extra mechanism. It is used altogether on the distinctly high-speed European motors, and even on those of medium speed the chief remaining exemplars of the contact spark are the Mors and Mercedes cars. In this country the contact spark is used in a number of cars equipped with engines of moderate speed, but with the steady increase of engine speed the jump spark is coming more and more into favor.

The Batteries and Generators

The source of current is usually either a primary or a storage battery, but sometimes a small dynamo or magneto generator is used. The battery is apt to be more or less of a nuisance, as unless it is carefully kept clean, the liquids in it will "creep" and corrode the battery terminals or wet

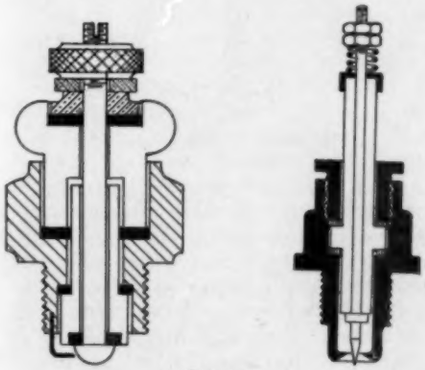


Fig. 4

the box containing the cells. A dry battery avoids this, but it does not last long and has to be frequently renewed. Dynamos and magneto generators are very satisfactory when properly designed, mechanically and electrically, for their work. The attention they require is mainly mechanical, in the way of cleaning, oiling and renewing the brushes. As there is a great difference between different generators, as also between different batteries, the purchaser of either would do well to specify as nearly as possible the work which is expected of them, naming the motor and the make of coil, also the highest motor speed, and exact a guarantee of performance.

An English operator, in a 10-h.p. Decauville, recently completed a run of 400 miles in 21 hours. The journey was from Edinburgh to London, and the carriage did not come to a stop on the entire trip. By careful driving through the towns, no stop was necessary on account of traffic, the tires and motive power held out, and the one operator who started with the machine drove it through the entire journey, but declared that in future there should be relays of drivers, as the strain was too great, his hands and arms getting very numb and his eyes very tired from the strain of watching the road in the darkness of the night.

FROM PARIS TO VIENNA

The Personal Narrative of Thoughts and Experiences of Marcel Renault, Winner of the Race, as Told in the Paris Figaro

In making the start for Vienna I put myself on the course for the tenth time, and so I no longer experienced the emotions which attend the tyro in his first attempt. The sensation of starting is, certainly, one of the strongest. Summoned to the line at Champigny at 3.30 A.M., I was compelled to wait—my number being 147—until 6 o'clock before the decisive moment. These long hours of waiting tend to disturb even the most calm disposition; if not conducive to absences, it would be far better to amend the rules so as to summon each one but fifteen or twenty minutes before his starting time. During two and a half hours I have seen depart in succession a hundred competitors, some away with instantaneous starts, others working up to the last second and exhausting themselves in setting in motion a refractory motor; perhaps in the end losing some minutes. During this time I sought to imagine what my fate might be when my turn came.

No one can say, on entering such a race as that of Paris-Vienna, whether the incidents of the route will be favorable or the reverse. I remember that each time that I saw a "bon camerade" start, I found myself wondering whether Providence would permit us all to meet in the evening at the end of the stage.

At last but a few minutes separated me from the decisive moment; I set my engine in motion, advanced to the starting line, and in another instant I was face to face with the unknown difficulties of the way. The last moments seemed like those of a condemned man on the scaffold, when the starter began to count "One minute—forty-five seconds—thirty seconds—ten seconds—five seconds—two seconds—Go!" I believe that at this last word not one of the contestants was able to repress a heavy sigh of relief as he came to the final second which separated the period of preparation—which certainly is the most trying of all—from the race itself.

Only those who have tried it can fully realize the vast labor and trouble accompanying the last few days of the preparation of a new vehicle for a race. Never content, never fully satisfied, always in doubt over some point, always seeking to attain perfection, the driver stops at nothing. Even to the very last second he labors to further improve the car on which he trusts himself for the conquest of the course.

The First Day's Run

From Paris to Belfort the road, taken as a whole, offers but few difficulties; all turns were perfectly marked by the committee, showing the exact direction. A blue flag, before which every prudent driver reduces the speed of his car, knowing that it indicates a dangerous turn or a difficult piece of road; a yellow flag, signaling a stop—no indication was lacking that could warn the driver of the difficulties before him.

Starting almost among the last, obliged to pass a large number of fellow contestants in order to arrive in a creditable place at Belfort, I experienced over and over again that delicious sensation of strife which is assuredly the one emotion capable of making one forgetful of fatigue and perhaps even of danger.

I had resolved before the start, in realization of the innumerable chances of delay and danger on the long route, to be calm and to maintain a fair speed. I must admit, however, that in spite of this resolution, on perceiving afar the little clouds of dust that warned me of a rival who might be overtaken, I have more than once abandoned myself to the full joy of racing. While I had passed through in the first fifty or sixty kilometers from Paris a moving mass of humanity, I must say that the preoccupation due to the idea of a single end to be attained prevented me save on rare occasions from distinguishing individual elements of the throng. Hardly did I recognize at times the salutations of friends who waited by the way.

The road from Lure—about 20 kilometers out of Belfort—had been described as specially dangerous, and as I had fixed in my head above all other thoughts the one idea of reaching Vienna, I redoubled my care and at last arrived safely at Belfort.

Swiss Scenery and Austrian Roads

The stage of the second day was a relaxation, the speed of 30 kilometers to the hour permitted us to see and of course to admire as well, much of the scenery; to me it was a pleasure to revisit once more these magnificent valleys of Switzerland which I had for two consecutive years visited on my tours.

I reached then, after two hours' (?) progess broken by stops at each control, the Bregenz control, discussing tranquilly, by the way, with my mechanic the beauties of the country, which he traversed for the first time.

The foreign part of the course offered evidently very different obstacles from those of our country, first in the point of the roads themselves; then there was the difficulty of making one's self understood. Further, the organization in a country where we ran for the first time, must necessarily be inferior to that in France. They had warned us on departing from Bregenz that the blue flags, indicating a slower speed, would be placed directly at the obstacle only in the case of a ditch across the road (caniveau) or a grade crossing; and that the turns, however dangerous, would be marked only in those cases where some special obstacle in addition was to be met beyond the turn itself. Naturally enough, this information was the reverse of encouraging, especially in view of the reports that had reached us of the state of these roads.

The first few kilometers covered had made me believe for the moment that the bad condition of the Austrian roads had been exaggerated, the ground being fairly practicable.

Racing in the Dust

Starting twenty-third at 4:11 A. M. on June 28 from Bregenz, but a few minutes had passed when I began to overtake a leading car. The dust ahead of me was such that, considering the narrow way and the trees that formed an arbor over my head, I was tempted for the moment to abandon all idea of passing my rival. I thought, regretfully enough, that I must, if the road continued in such a condition, abandon all idea of passing rather than to risk the danger of an attempt where nothing was visible. After some moments of reflection I threw myself into the dense cloud, and I must admit that for some minutes I ran happily, up to the instant when I found myself but a few meters distant from the other car. When I could distinguish the form of the driver, with my mechanic, I yelled and shouted like wild beasts in order to warn him to keep to the right—then I passed him.

My car running perfectly, I repeated this operation six or seven times under identically the same conditions, but each time with greater ardor. Greatly encouraged by the position thus gained in passing each car, I thus traversed a part of the Arlberg and arrived at a control, where I experienced the great joy of meeting my brother Louis, whom I had not thus far seen since the start. I dreamed then of finishing this stage, if not the whole course—as has happened to us in some previous contests—in his company. Alas! I was destined to be soon disappointed through an accident, caused by another competitor, which delayed him some kilometers further at the control of Innsbruck.

The Passage of the Arlberg

At this point commenced for all competitors a trial of endurance and acrobatics at the same time; roads rough, narrow, sinuous and twisted, with the great ascent and descent of the Arlberg; nothing being missing. All of these difficulties increased as the actual state of the road itself became worse. From time to time all ideas were shattered by the torrents over which we passed on bridges made of three planks. I asked myself whether I had not in some way mistaken the route. We all felt at times the need of summoning all our endurance in order that we should not stop in despair on the side of the road, abandoning all hope of seeing Vienna.

The gutters, innumerable as they were, compelled me every moment to stop and start, to operate the brakes and speed gears; then there was to be crossed the *dos d'ane* (thank-you-ma'am), which sometimes nearly threw me out of the car —and I was but one of many. I must say that the last part of this day's stage, from Innsbruck to Salzburg, was most painful for me, for I learned in passing the control at Innsbruck of the collision of de Caters with my brother Louis, and that I was left alone to represent our firm in the category of light carriages. Once arrived at the park (at Salzburg) I had but a single thought, to get news of Louis. I had awaited him at the control until after 8 o'clock; but even after his unfortunate encounter with de Caters, other mishaps attended him. In passing a competitor, in the dust as usual, he ran off the bank and broke a wheel, which he was compelled to repair in order to reach Salzburg.

In Sight of the Prize

The fourth stage was decisive for me; second in my class and seventh in the general class, I now came into direct competition with Mr. Edmond, on his Darracq, who had a lead of twenty minutes. I dashed forward along the road, resolved to risk everything; my one thought on reaching each control was to assure myself of the loss or gain which I had made on my rival; I felt my strength increase in learning that I had gained some minutes. In this way I covered several kilometers, passing dos d'anes, gutters and turns at full speed, confident in the strength of my car. All at once I perceived in the distance a little cloud of dust; I approached it rapidly—a few moments more, and I was at the head of my class. What a sensation of triumph in that I had gained more than twenty minutes in the last seventy-five kilometers; I resolved to proceed at a sustained high speed, but with even more care at the turns and the grade crossings.

In this way I reached St. Polten exclusively occupied with my car and my tires, which latter had thus far shown no signs of failure. I passed now Mr. de Zborowski and Maurice Farman, showing that I was third in the general class and first in my own. I was happy with the enthusiastic welcome of the Austrians crowded along the sides of the road.

In the Lead at Last

At St. Polten I met Mr. Echalie, who congratulated me upon my good progress. Then I asked of him at what distance ahead I would find my two leading rivals, and he replied, to my intense satisfaction, that I was the first of all to pass. I was dumb for the moment, and then I persisted: "But there must be two of the heavy cars ahead of me?" "No, my friend," he answered, "you are the first." Then I understood the meaning of the applause that had greeted me for several kilometers back. I took up my course, resolved to venture all in spite of the awful state of the road and the terribly dangerous turns in order to take my car first into Vienna and to uphold our national work; especially as the battle over this last stage had for contestants a Mercedes car (German), handled by Mr. de Zborowski, and my own French car.

A Hunt for the Finish

I have no need to tell how the 80 kilometers that separated St. Polten from Vienna seemed to me to make a stage of interminable length, but, fortunately for me, I was able up to the last minute to preserve my *sang froid* in a situation that had become most trying. I arrived then at last at the end of this long voyage, and, having seen on my way no indication of the proper entry to Vienna, I was guided by the crowds of curious spectators who flocked to witness the finish. At last I reached the Prater, where the finish was located in a vast hippodrome, in which a large crowd had assembled—but the gates were closed. An officer wearing the insignia of the Automobile Club of Austria raised a movable barrier on my right and I directed myself, according to the advice of the surrounding people, toward a place called the Rotunda. Other persons then came in search of me, saying that it was necessary that I should make the circuit of the course, pointing out the finish, in front of the judges. At this moment the Austrian commissioners informed me that I had not followed the regular course, and that it was necessary for me to continue still further. I drove forward in the direction indicated, and they made still another sign that I had not followed the proper course. I retraced my way to the place where Count de Schoenbron was standing, and he entered my car in order that I should follow the proper course; but I must say that he no more than I knew it, and we directed ourselves toward the place where I had made the first turn by mistake. His colleagues then motioned to him that we were not yet on the right course; I then turned toward the entry gate, which I had found closed, and at last I made the circuit of the course and reached the line.

The Victor's Weath

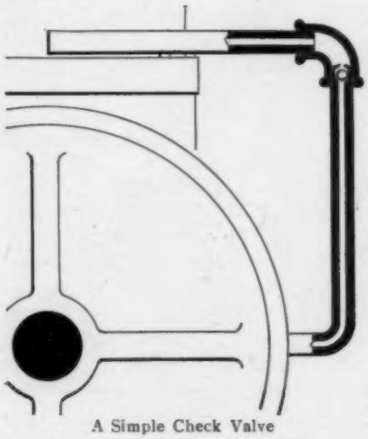
Finally, my circuit of the track properly completed, the Countess of Schoenbron approached to present to me the prize offered by the Prince de Furstenberg to the first arrival at Vienna; she placed on my car a crown of laurel and, the first moments of stupefaction passed, after discarding my dust-covered clothes I left the car and thanked her.

I am still at a loss to describe the pleasure which I experienced; I may say that it was the greatest that I have ever known; the first reception seemed to me a little cold, but this, I think, should be attributed to the irregularity of the arrangements. After having thanked all the friends who had congratulated me, after having shaken many hands, I entered my car to conduct it to the Rotunda, where it would be on exhibition, and departed to my hotel happy to be able at last to rest a little after this long journey.

Correspondence

SIMPLE CHECK VALVE

BELOIT, Wis.—Editor the AUTOMOBILE AND MOTOR REVIEW:—On account of the lubrication oil working forward past the pistons into the combustion chambers of the cylinders of my carriage motor I was for some time annoyed by burning oil. I had read of two or three machines in which the crank casing was provided with an air vent whose ball check valve allowed the discharge of air but not its return, hence forming a partial vacuum in the crank box and tending to prevent the flow of oil past the pistons into the firing chambers. I determined to try this device to see if it would relieve the burning of oil and consequent smoking.



A Simple Check Valve

Having at hand no suitable check valve and wishing to attach the device without delay I resorted to the facilities of a local bicycle repair shop and made the device shown in the drawing herewith. I first cut threads on one end of a brass pipe, afterward bent L shape, and drilled and tapped a hole in the upper side of the motor crank box to match. With a drill of greater diameter than the bore of the pipe I counterbored the opposite end for a short distance, forming a taper or bevel seat which was very nearly concentric with the hole in the pipe. I then stuck a bicycle ball of suitable size in this seat, securing it temporarily with a little Helmet oil—a heavy lubricant.

The end was then notched to form two prongs which were bent over to form a positive retainer for the ball. By threading the outside of this end of the pipe with threads to correspond with those of a small pipe elbow I was enabled to attach a downwardly projecting discharge tube, which I allowed to depend about seven or eight inches. Before attaching the elbow, however, I cleaned out the Helmet oil with a little gasoline so that the ball check would be free in operation. I was greatly pleased to find that this attachment really reduced the working of oil into the combustion chambers and materially lessened the burning and smoking.

F. L. E.

STEAM BOILER QUERIES

EAST ORANGE, N. J., July 17.—Editor the AUTOMOBILE AND MOTOR REVIEW:—Being a reader of your paper, I should like to ask you a question or two in regard to a steam auto, as I am somewhat interested in them, to the extent of being about to purchase one, and the most I know about them is from your journal. Will you kindly inform me how many square feet of heating surface to the horse power the boiler should have, and how many square inches of burner to the horse power? In stating the heating surface, does it mean the entire surface, or the surface exposed to the water only? Why do they use 5/8- and 3/4-in. tubes in place of 1-in? How much hotter is the gas burner than the same surface in coal? I have seen several machines and they tell me different stories. J. PHELPS.

[With the usual fire-tube type of carriage boiler, about 12 to 15 square feet of heating surface are allowed per nominal horse power of the engine. The heating surface is measured on the outer circumference of the tubes, and includes also the net area of the lower head or "crown sheet" of the boiler. It does not include the upper head or the shell of the boiler, which are not exposed to the heat. The tubes are usually of 1/2 in. outside diameter, this small size being used to get as much heating surface as possible into a boiler of small compass. The temperature of the Bunsen flame is estimated to be approximately 1,800 degrees Fahr. No exact figures could be given for the temperature due to coal combustion, but it would usually be much lower than that of the Bunsen burner. The burner is always made of the same diameter as the boiler.—Ed.]

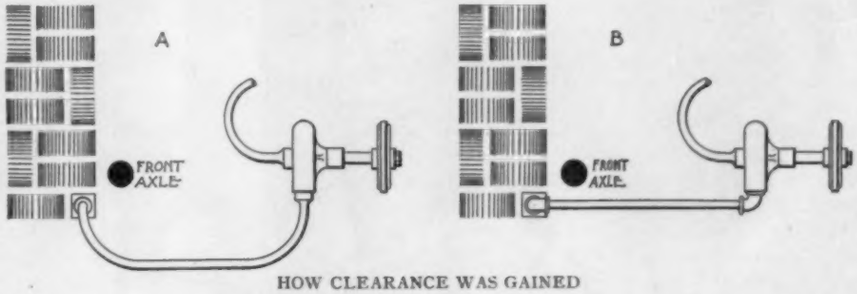
TOO MUCH FUEL

KEOKUK, Ia.—Editor the AUTOMOBILE AND MOTOR REVIEW:—A friend recently endured a trying two weeks endeavoring to make his gasoline carriage run smoothly. It would go by jerks and fits, but never efficiently, and after tinkering with it in every possible way the owner appealed to me to assist him in getting the vehicle into good running order. I had previously watched the machine and casually examined it and felt confident that I knew the remedy. So I told him to re-connect his battery cells, wiring them in series and to then take the machine out and shut off the gasoline supply to the carbureter to a very low limit and to keep on cutting down the fuel until the lowest limit at which the engine would run under a light load had been reached. He did this and was surprised to see the machine run nicely. I then instructed him to regulate the carbureter carefully to secure a heavier charge without altering the proportion of air and gasoline to any great extent. Since then he has had no difficulty. He had been feeding a heavy charge which was comprised of more gasoline than the air could sustain and which was thus far from being vapor when it entered the cylinder; while the ignition was also greatly improved by the change in the coupling of the battery cells.

JOHN D. KELLY.

SECURING MORE CLEARANCE

JERSEY CITY, N. J.—Editor the AUTOMOBILE AND MOTOR REVIEW:—Some time ago I purchased a small size French car which gave satisfactory service with the exception that the clearance was hardly sufficient for some of the roads over which I occasionally ran the machine. I noticed that the pipe leading from the water cooling coil to the circulation pump was several inches lower than any other part of the running gear and machinery. View A of the accompanying sketch shows the original arrangement of this pipe. By attaching a right angle elbow to the pump I was enabled to run the pipe straight forward as shown in view B, and thus gain several inches clearance. Since this alteration the car can take almost any road which can be negotiated by the average American machine. J. C. D.

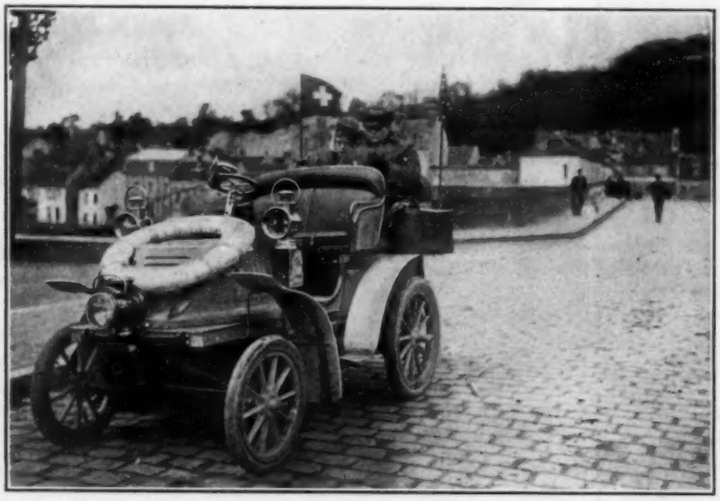


HOW CLEARANCE WAS GAINED

WITH THE VIENNA TOURISTS

The Journey from Paris to Vienna With the Touring Division—Incidents of the Long Route Through Switzerland and Austria

We are indebted to Mme. Juilette Lockert, publisher of *Le Chauffeur*, for the following notes and accompanying photos of the tour from Paris to Vienna, preceding the great race. Mme. Lockert drove an Ader car of 7 h.p. running on alcohol.



WITH THE TOURISTS
Mme. Lockert's Car at Montereau

ON BOARD OF ADER NO. 12. PARIS-VIENNA—Our start from Paris on July 20, delayed for 24 hours owing to the putting to press of *Le Chauffeur*, was in very bad weather. The few spectators in the Place de la Concorde seemed to say to us, "Do not start." Discouragement fairly poured down on us, and when, at 11 o'clock, one of our oil-cups began to leak like a broken basket, we were anything but gay. However, a ray of sunlight came out and changed all this, and filled us with hope. We reached Montereau, from which place we continued to Sens. In leaving the latter place we were met by reapers who greeted us with frantic hurrahs and waving of scythes, and cries of "Bon voyage." These were the first encouragements that we had received, and we gaily saluted the workers, whose acclamations followed us for a time.

At Villeneuve la Guifard (Yonne) a jolly old peasant was sweeping up the road; he had a rose in his mouth, which he threw at us, crying "Bravo," and then making a gesture with his shovel as though throwing the dirt after us as we sped away; showing in pantomime his disappointment that it escaped us. These little incidents enlivened our route, and chatting and laughing we came to Pont-sur-Yonne. I had purchased some food and we ate it in the car. At Pont, a pretty little place, we stopped for coffee. At 3 o'clock as we left Villeciennes, 125 kilometers from Paris, a Panhard, No. 137, came up with no warning of its speed and struck us a sharp blow, the fault of its careless chauffeur. Since noon the weather had been clear, but toward 3:30 it became stormy, with a high wind that slowed down our speed. Entering Auxerre at 4 o'clock we were well satisfied in having made up our lost time, having caught up with the others. We had much delay in securing alcohol at the storage station and oil from the local dealers; they sent us from one to another and we lost 40 minutes in replenishing our tanks.

The remainder of that day, July 20, is well passed, and we left Precy under Thill at 9 on the morning of the 21st. It was cold, but we were well protected by the perfect garments now made for motorists; we sped along rapidly and breathed the fresh air. This day passed very pleasantly; there was a violent squall, but it was during the breakfast hour at Dijon, and we prolonged this until the rain was over. At the French Customs we found the officials charming, but the Swiss officials had a more severe air.

Switzerland is truly picturesque, but a little rough in the roads, at least for our taste. Our motor, however, runs steadily, doing all that one could ask, and men stop to look at this little 7-h.p. car that leaves behind it an odor of alcohol, and that carries so safely Mme. Lockert and her two daughters. We made on Sunday 195 kilometers without incident. In the evening, at Interlaken, a banquet was tendered us, but I did not care to attend, enjoying the Kursall and the display of fireworks.

After a night of pleasant sleep we left Interlaken on June 23, at 9:30, and in some way managed to lose ourselves as we passed out from the city. Fortunately a pair of horses were frightened, we stopped our car, and a gentleman who spoke French set us on the right way again. The stage was difficult on June 24; it was necessary to climb to an elevation of 1,004 meters on the Brunning. We started full of confidence in our brave little 7-h.p. Ader and it did not fail us. On a little plain near the summit we stopped to rest it after passing two 12-h.p. cars. After a brief stop we started again for the last climb to the summit, and at noon, on June 25, we stopped in front of the inn at the top.

Happy as we were at having climbed the Brunnig, we were not yet satisfied, as we still had the difficult descent before us. At Lungern, 715 meters altitude and 726 kilometers from Paris, we stopped at the Golden Lion to purchase a rope in case it became necessary—as was the case with some others—to drag a stone behind our car to help the brakes. We had, however, no need of such aid, and descended slowly and surely. On arriving at Lucerne we learned of the accidental burning of one of the cars, No. 27, owned by Mr. Dufour.

WITH THE TOURISTS
French Customs Officials

On the hill of Sattel, a hard and difficult

THE PASSAGE OF THE ARLBERG
Ader car, with Mr. de Richemont, of the Societe des Automobiles Ader

ascent, are placed at each kilometer a "station of the road of the Cross." It became quite warm; after a time we passed a wagon of monkeys, and Gauthier, our chauffeur, terrified them by several blasts of our horn. A camel followed after, regarding us with its calm eyes. After Bruning came the Arlberg, with its 1,802 meters of altitude, on Wednesday, June 25, and soon after on the same day came the Brenner Pass, at 1,362 meters. This was a crucial test of endurance, for on few other occasions would a car have to encounter such a succession of hills on the same day. There were ordinary breakdowns and several serious ones in the procession, but the little Ader ran on without noise and attracted attention only by its regular progress, the evening finding us at St. Lorenzen, a charming little village near Brunneck. We merely stopped to ask our way, but the innkeepers were so agreeable that it resulted in a stop for the night in this delightful country where the people in the morning decorated our car with flowers and accompanied us on the way with kind wishes.

On Thursday we proceeded to Klagenfurt and all went pleasantly, without accident; on Friday we arrived at Gratz, and on Saturday we climbed on up to Semmering, where a breakfast was tendered us. A punctured tire at 14 kilometers from Vienna delayed us until 6 P. M., instead of 5:30, and we had to wander for an hour in the city before being able to find our garage in the Rotunda. There, on my commenting on the absence of information as to entering the city, they answered that the rendezvous at the gates was set for 5:30 and not for 6 o'clock. However, the pleasure of really reaching our destination, with the present of a garland of flowers, caused us to forget this unpleasant incident; and with light hearts we took part in festivities arranged in honor of the visitors, including a "battle of flowers" for which our car was duly decorated.

CHICAGO REQUIRES DOUBLE BRAKES

Under the new ordinance prepared by City Electrician Ellicott, of Chicago, after

Mr. Colard's Car, Touring Division, after Striking a Cow Near Imst
From *La France Automobile*

a conference with Mayor Harrison, Corporation Counsel Walker and representatives of the park boards, two independent sets of brakes must be provided for each motor vehicle used in the Windy City. One of the brakes, or sets of brakes, must be independent of the driving gear. Each brake must be sufficiently powerful to bring the vehicle to a full stop in 10 ft. when traveling at a speed of 8 miles.

The speed limit is left at 8 miles, with the understanding that it may be made 12 miles in unfrequented streets.

The penalty for violating the ordinance is $5 to $25 for each offense. The license badge must be worn in a conspicuous place on the person of the operator, outside the coat. No alarm may be used except a bell, which must not be more than 4 inches in diameter. The Chicago ordinance, while requiring all automobile operators to have a license, necessitates that the applicant, in order to secure a license, must have good use of his hands, feet, arms and legs. His eyesight must be good, and if he is compelled to wear glasses they must be securely fastened to the head by a spectacle frame. No one who is color blind will be given a license. The applicant must be free from epilepsy and heart disease. He must not be subject to fainting spells. He must not be a dipsomaniac. If it is known that the applicant is of a particularly reckless disposition the license will be refused. Furthermore, he must be examined as to his familiarity with the machine which he proposes to operate. The examining board is headed by the city electrician. In addition, the mayor has announced that in the future he will revoke the licenses of those who are guilty of reckless riding, and that they will not be able to obtain new ones on any ground whatever.

Residents of Lenox, Mass., are waging war against motorists in earnest. A circular was recently issued by the Lenox Club offering a reward of $25 to each person securing a conviction for violation in Lenox, until October 30, of the existing Massachusetts statutes pertaining to the highways.

THE BATTLE OF FLOWERS AT VIENNA
Mme. Lockert's Car

The Week's Patents

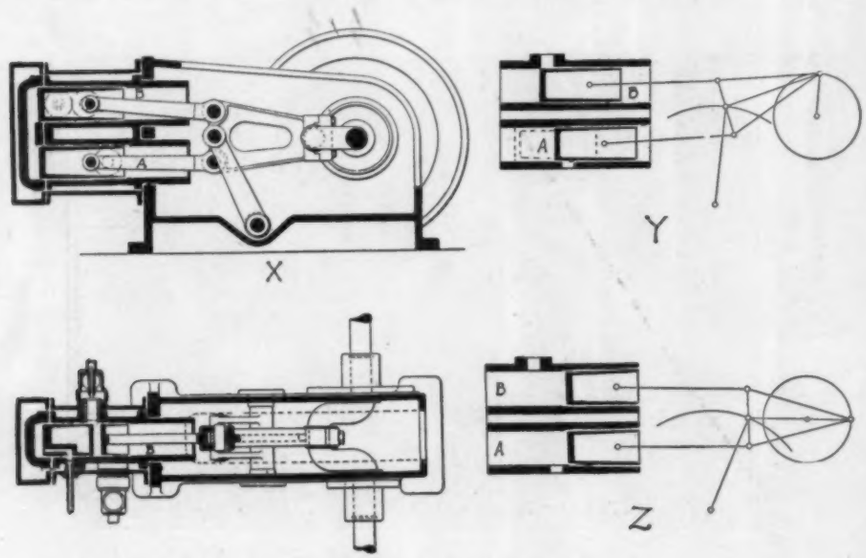
TWO-CYCLE ENGINE

Letters patent No. 704,060, dated July 8.—Frank Lister, of Keighley, England.—This patent relates to a two-cylinder, hydrocarbon motor whose pistons take the same strokes of their cycle simultaneously, completing the cycle in one revolution of the crank, and operating to discharge the exploded gases at an expanded volume larger than the volume of the same charge prior to its compression before ignition.

The cylinders are parallel and have a common combustion chamber. Both piston rods are pivoted to a triangular link which is connected to the crank and which is supported by an oscillating lever arm pivoted upon the motor casing. In the wall of one cylinder, that marked A in the accompanying illustration, is an inlet port, while in the other cylinder, B, is a correspondingly arranged but more outwardly disposed exhaust port. These ports are fitted with ordinary valves, one operating inwardly and the other outwardly. The ignition is by hot tube, this being placed in the side of the cylinder B with its chamber adapted to register with a passage through the piston at a certain point in the stroke of the latter.

The pistons starting on their cycle from the position of extreme compression indicated in view X, move under the impulse of the explosion to the position shown in view Y, after which further movement outward opens the exhaust port in the cylinder B, allowing the spent gases to escape. Further movement outward causes the uncovering of the inlet port in the cylinder A and the creation of sufficient suction to draw into this cylinder a charge of fresh vapor. From the extreme outward position shown in view Z the piston of cylinder A leads that of cylinder B, compressing the charge and covering the inlet port before the other piston reaches and covers the exhaust port. Thus the second piston tends to force out any remaining exploded gas, against the pressure of the fresh charge entering this cylinder through the common combustion chamber. The piston in B toward the end of this stroke covers the ignition tube aperture to prevent premature ignition of the slightly compressed charge, and the ignition passage through it does not register with the tube aperture until the point of full compression has been reached.

On account of the relative movement of the pistons and the disposition of the inlet and exhaust ports, the piston of cylinder A commences compression with a lesser volume of vapor in the cylinder than is the volume of the exploded gases at the moment of the opening of the exhaust port in the outward stroke of the piston of cylinder B.



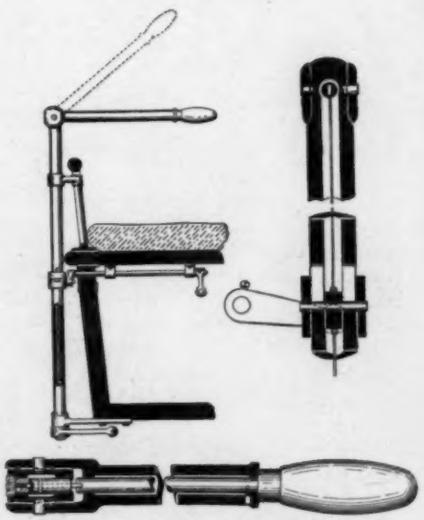
LISTER'S TWO-CYCLE ENGINE

STEERING AND CONTROL LEVER

Letters patent No. 704,102, dated July 8.—Major D. Porter, of New York, N. Y.; assignor to Clarence F. Jewett, trustee, of New York, N. Y.—The invention contemplates the provision of a side steering lever whose handle is also adapted for connection with the controlling medium of the vehicle, this being accomplished in a manner which obviates the use of a double or sleeved steering post and which also permits the swinging upward of the steering tiller for convenience in mounting or dismounting.

The tiller is hinged to the post by an ordinary pin pivot and is hollow to carry a rod adapted to rotation and upon whose projecting outer end is mounted the operating handle or grip. Within the head of the post is a rotatably mounted block having a flat projection which is slidable and backed by a spring so that it will be pressed toward the adjacent end of the rotary grip rod and made to engage a crosswise slot in the end of the latter when the two parts are in alignment. When the tiller is thrown upward this engagement is broken, and when brought back to its normal horizontal it is resumed automatically unless the grip has been moved, in which case a slight turn of it will register the slot in the rotary rod with the spring backed projection from the rotary block.

Surrounding the steering post at any desired vertical position is a slidable sleeve block retained in position by a cross pin en-



Porter's Steering Lever

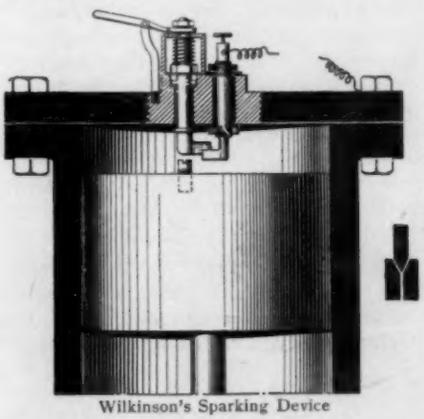
gaging vertical slots in the wall of the post. This block connects exteriorly with a crank arm which can be arranged in any suitable position and manner to connect with the starting and stopping or other controlling medium of the vehicle. Interiorly its cross pin is connected to the rotary block in the head of the post by means of a cord which is adapted to wind around a slot in the block when the latter is rotated and thus draw the sliding block on the post upward. Below the latter block there is an interior coil spring which tends to normally draw the block downward so that unless the grip is turned to draw it upward it will be brought to the position whose effect upon the controlling elements actuated by it, is to stop the vehicle.

IGNITION DEVICE

Letters patent No. 704,417, dated July 8.—Charles A. Wilkinson, of Worcester, Mass.—Screwed into the top of the head of the cylinder is a metal block or plug through which passes an insulated rod to which one pole of the electric current is connected. The other pole is grounded in the motor cylinder and its electrode is a slidable pin passing through the metal plug, but uninsulated from it. This pin terminates in

a laterally projecting prong or shoe which may fit into a slot between two fork arms that project from the insulated pin. This engagement is shown in the small detail view of the accompanying illustration. A coil spring tends to keep the prong and fork normally in engagement while a cross pin and groove engagement between the slidable rod and the metal plug prevents the former from turning. A small lever arm allows it to be lifted manually.

In the end of the motor piston and in line with the sliding pin is a screw stud which, when the piston reaches the limit of its inward compression stroke, presses against the end of the pin and lifts it away from the fork of the other electrode, thus breaking the current and causing a spark. The moment of current breaking can be regulated by screwing this stud inward or outward relative to the piston. Such regulation is only for adjustment, however, and does not provide means for timing the spark to change the speed of the motor. It is obvious that the device would not be readily applicable to a four-cycle motor on account of the fact that the current is broken and a spark made at each revolution.

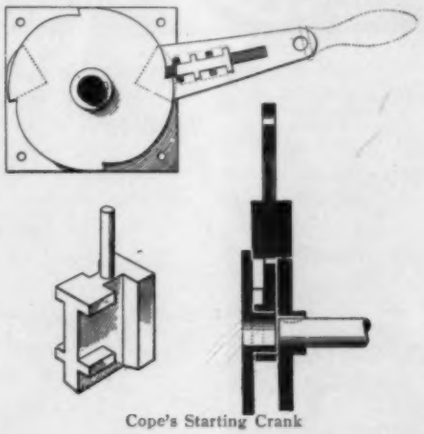


Wilkinson's Sparking Device

MOTOR STARTING CRANK

Letters patent No. 704,618, dated July 15 —Caleb F. Cope, of Philadelphia, Pa.— This is a simple device intended to prevent premature firing of the charge when starting the motor from transmitting a reversal of rotation to the starting crank. Mounted rigidly upon the end of the motor shaft is a ratchet wheel, adjacent to which is a block attached to some convenient portion of the frame of the machine and which is provided with a hub in line with the motor shaft, and upon which is pivoted the hand crank arm or lever. In the body of this crank arm is a longitudinal slot with four lateral recesses or notches which allow the insertion of a sliding block or dog formed with corresponding lateral lugs upon its face, and upon its rear with lateral extensions running its full length. The position of the dog between the ratchet and the spring which retains it normally in engagement with the ratchet, is such that the lugs are prevented from registering with the recesses in the crank arm slot, it being thus self-retaining.

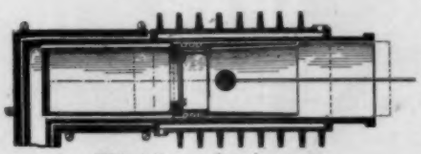
In the space between the crank arm and the stationary block are mounted two fixed cam blocks whose curved outer faces are adapted to lift the nose of the sliding dog out of engagement with the ratchet wheel whenever in rotation, the crank arm is brought over one of these cams. It is obvious that the crank arm can be given only a quarter revolution with its sliding block in engagement with the ratchet. It is intended that the initial motor shaft rotation be given by a backward and forward movement of the crank arm, producing quarter-turn impulses upon the ratchet and at the end of each of which the dog is lifted out of engagement. Should the motor impulse, by reason of ignition occurring prior to the normal point, be given in the reverse direction the ratchet can carry the crank arm backward only to the point at which it will cover one of the fixed cams, when it will become disengaged.



Cope's Starting Crank

MOTOR COOLING SYSTEM

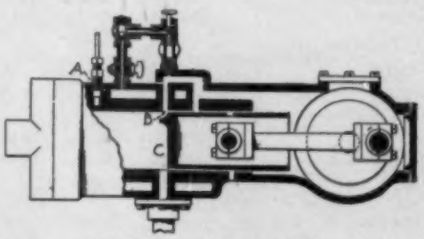
Letters patent No. 704,713, dated July 15 —Mathias J. Klein, of Baltimore, Md.— This is an adaptation of an old method of providing means for retaining the heat generated in the explosion chamber of an internal combustion engine, while at the same time preventing that part of the cylinder within which the piston moves from becoming sufficiently heated to affect the lubrication. The piston is provided with an extension which is slightly less in diameter than the working portion so that it does not touch the cylinder wall, while the cylinder is provided with a corresponding extension, the increased length being equal to or more than the length of stroke of the piston. The portion of the cylinder through which the working piston travels is water jacketed, while the head portion or extension, including the compression space or combustion chamber, is insulated outwardly by some heat retaining material. The dry air within the hollow piston extension is assumed to act as an inward insulation against the escape of heat. It is probable that such construction also includes the firing of the charge by the heat of the head, excepting at the start, when exterior heat would necessarily have to be imparted.



Weiss' Scavenging Apparatus

SCAVENGING DEVICE

Letters patent No. 704,995, dated July 15 —Carl W. Weiss, of New York, N. Y.— The principal object of the invention is to provide means for injecting water into the explosion chamber of a hydro-carbon motor immediately before the entrance of the explosive charge, this injection of water having the double purpose of cooling the chamber and expelling from it spent gases which may have remained in the chamber after the opening of the exhaust valve. The accompanying illustration shows the invention applied to a motor adapted to use liquid hydro-carbon as fuel, this being mixed with air within the combustion chamber. The fuel inlet is at A and at B is a passage through the water jacket connecting with the crank casing, the latter being used as a convenient air compressor. Fresh air is taken into the crank casing through an aperture on the lower side, which is covered by the piston except when the latter is at its extreme inward position. Connecting the water jacket with the passage B is a combination group comprising a cock, check valve, regulating needle valve and sight feed. The exhaust port is indicated at C.



Klein's Extension Head Motor

The water taken from the water jacket will fall into the passage B while it is covered by the piston and will remain there either in liquid form or as steam until the port is opened as the piston approaches the outward limit of its stroke. Then the water is discharged into the cylinder by the air pressure from the crank casing, and in the form of a vapor tends to cool the walls of the cylinder and to drive out remaining dead gases through the exhaust port. The vapor from the water is itself discharged almost instantaneously while the dry air which follows it from the crank casing into the cylinder is mixed with the charge of oil, the timing of whose intake is such that it almost instantly follows the escaped steam. Such steam as will remain in the combustion chamber during the compression stroke is asserted to be inconsiderable and with less effect in reducing the efficiency of the explosive mixture than would have the dead gases expelled by it.

LAUNCH RACING AT LARCHMONT

An important feature of the Ladies' Day (July 22) celebration of the Larchmont Yacht Club was the launch racing, three classes taking part. The "naphtha launches" and gasoline launches were in two classes, over 21 ft. l.w.l. and under 21 ft. l.w.l.; while the alco-vapor launches raced in one class of their own. Most of the launches were service craft from the various steam and sailing yachts of the club, but Mr. A. L. Bostwick entered a new speed launch fitted with a 12 h.p. carriage motor, and she won very easily in spite of a heavy handicap. The times were:

CLASS A—NAPHTHA LAUNCHES.
Over 21 ft. l.w.l.

	H.P.	Finish.	Elapsed	Corrected.
Bostwick	12	2:21:10	14:10	14:10
Sedonya	4	2:30:06	24:52	22:38
Helenita	6	2:26:05	20:55	19:07
Idalia	3	2:28:20	22:59	21:41

CLASS B—NAPHTHA LAUNCHES.
21 ft. l.w.l. and under.

Fortuna	4	2:37:18	25:01	24:57
Sachem	2	2:37:26	25:11	25:11
Crusader	3	2:46:40	28:07	28:50
Montauk	2	2:38:10	25:44	25:25

CLASS B—ALCO-VAPOR LAUNCHES.
21 ft. l.w.l.

Katrina	3	2:37:24	25:09	25:07
Crusader	1	2:40:28	26:46	26:12
Quissetta	2	2:39:09	25:52	25:52
Paladin	1	2:42:31	29:26	28:52

ACCIDENTS ON LAUNCHES

NEW LONDON, Conn., July 21. (Special Correspondence.)—Incidents of the past week in the lobster fishing fleet of auxiliary boats were rather interesting, as showing the possibility for danger when operating gasoline motors and the additional gear attached for hauling pots and nets Two accidents happened on the same day, Tuesday, one of them quite serious.

Captain Elisha Clarke, of Stonington, in his auxiliary sloop Merton, while hauling pots, caught his right hand in the hauling gear and the member was severely mangled. He sustained a compound fracture of the little finger and the flesh was badly torn from the other digits. Captain Clarke's assistant headed his boat for Stonington, where his physician advised him to visit the hospital at New London. It was necessary to amputate the finger at the hospital, and the physicians are hopeful of saving the remainder of the hand.

Captain A. V. Morgan, of the Noank lobster fleet, was completely knocked out and painfully injured. One of the pots was being hauled into his sloop when the float, a piece of wood 2 ft. long and about 5 in. square, was caught on the pulley attached to the hauling gear. In whirling through the air the buoy struck Captain Morgan on the head and knocked him senseless. The wood cut a large wound between the cheekbone and the jaw. The skipper's physician believes that nothing serious will develop from the accident, though it was a very narrow escape for the captain.

An accident due to a flywheel "kick" happened off Greenport, L. I., last week when Frederick Ronick sustained a fracture of the right wrist. He was alone in a motor boat, and when starting the engine held the flywheel handle after the discharge of gasoline had been exploded. The sudden jolt to his hand broke one of the bones of the wrist, a common accident, but rarely resulting so seriously.

Company H, Massachusetts Naval Reserves, stationed at Springfield, has secured a gasoline launch from the Government for practice on the Connecticut River. Lieutenant Dexter, in command of the company, intends to get his men out on the river for general practice and also use the boat for transportation when making over-night camps along the Connecticut, towing the barges now used by the company. The new boat will have a special shed, which the state will build at Springfield.

THE RESUSCITATION OF THE DROWNED

A very remarkable case of resuscitation after a long interval under water was reported to Superintendent Kimball, of the Life Saving Service, by Capt. Ludham, of the Anglesea, N. J., Life Saving Station. The subject, a young boy named Stanley S. Holmes, was thrown into the sea by the capsizing of a boat, and it was fully twenty-five minutes before he was recovered by the Life Saving Crew.

There was no perceptible breathing. The boy's jaws were clinched and had to be opened by force.

The usual methods of the service to restore respiration were employed, hot water bags and other devices being used. It was forty-five minutes before a sign of life was apparent. Then there was a slight gasp. Artificial respiration was kept up for an hour and a half. Smelling salts, which are not usually included in emergency remedies, were resorted to, and after four hours' work the child regained consciousness.

The boy's father, Margaret Mace, a medical student, and Mary J. Hock, a trained nurse, send affidavits that the child was under water no less than twenty-five minutes.

Captain Kimball says that the case was the most remarkable in the history of the service, as he knows of no record where life had been restored where a person had been more than fifteen minutes in the water. This is very important as indicating the possibilities of skilful work in apparently hopeless cases of drowning.

LAUNCHES IN PLACE OF CANOES

NEW HAVEN, Conn., July 29. (Special Correspondence.)—One of the signs of the times is the manner in which the gasoline launch has displaced light draft canoes in the inland and busy manufacturing city of Meriden in this State.

At one time canoe and boat clubs formed the only means of marine sport on the shallow streams and lakes in that section, and the canoe trip down the little Quinnipiac river to this city was one of the adventures of the summer for those who loved the water.

One reason why the launch has supplanted the canoe there, it is stated, is because the launches are so much more comfortable and easy to manage, and, then, again, they are safer. One need not, necessarily, wear a life preserver all the time, and be an accomplished swimmer to manage a launch, and he had to be in handling a canoe. Besides, a launch enables a man to take the family along, which the canoe never did. The Meridenites say that the canoe has gone from there, never to return.

Captain Stanley Lowndes, of Northport, L. I., has visited this State the past week in his new motor oyster dredger, the Helen Stanley, named after his youngest daughter. The craft attracts much attention among New Haven oyster raisers from her completeness of outfit. She is 65 ft. over all, 17 ft. breadth and 5 ft. depth, and is built of Connecticut oak. She hails from Greenport, L. I., and her equipment is a Globe engine of 90 h.p., giving a speed of 11 knots. She is admirably constructed for the oyster dredging business, carrying a large supply of fuel so that she can remain away from port for many days. In her busy season she will give employment to ten men.

John Oberlander, proprietor of the Darien Launch Works, is to enlarge his gasoline launch works at once. He will build an annex to his factory, to be 120 by 60 ft., one and one-half stories high and well lighted. Mr. Oberlander intends to carry boats in stock all of the time hereafter.

CRUISING IN WISCONSIN

MILWAUKEE, Wis., July 21. (Special Correspondence.)—Four young men from Menominee, Mich., just across the Wisconsin state line, are out in the state cruising the waters of lakes accessible from their home waters. The cruise is being made in the naphtha launch Emaline,

owned by John Henes. They started down the shores of Green Bay, then went up the Fox River and will visit various points on Lake Winnebago. The whole trip will take up three weeks. The party includes Alfred Henes, John Henes, George Ruggerson and D. M. Rea.

The Chicago and Northwestern Railway Company has purchased of Robert Shaw, of Chicago, the handsome steam yacht Mima for $19,000, the boat being one of the best turned out by the Racine Boat Manufacturing Company. The Mima will be placed on Lake Gogebic, where the railroad company owns a large hotel, and the craft will be for the accommodation of summer guests. The boat is 65 ft. long, 10 ft. 9 in. breadth, and has a speed of twelve miles.

THE A. A. LOW SIGHTED

The kerosene launch Abiel Abbott Low, which sailed from New York for England on July 9, has been spoken by two vessels which reached New York last week.

Captain Ivon, of the French bark Tourville, from Nantes, reports having sighted the little craft on July 13, in latitude 40° 33′ north and longitude 61° 32′ west, but so far away that he could not communicate.

The American liner St. Louis, from Southampton and Cherbourg, also reported having sighted the Low. The little boat exchanged colors with the big liner on July 18 in latitude 41° 34′ north, longitude 55° 35′ west. The two occupants seemed to be in the best of spirits.

THE U. S. NAVAL INSTITUTE

The quarterly number of the Proceedings of the U. S. Naval Institute, for July, contains a paper by Lt. Victor Blue, U. S. N., on the use of converted yachts, of which the Government has now a number in service, or of small gunboats, for the training of landsmen. A new form of navigating protractor is described by the inventor, Lt. Chas. M. McCormick, U. S. N. The volume, which is a large one, contains a number of important papers upon naval subjects.

THE SOCIETY OF NAVAL ARCHITECTS

The ninth annual volume of the Transactions of the Society of Naval Architects and Marine Engineers has just been sent out to members by the Secretary and Treasurer, W. L. Capps, Naval Constructor, U. S. N. The volume, which is the usual small quarto, contains all the papers read at the annual meeting last November, with the discussions. Among these is a very full account of the race between the steamers City of Erie and Tashmoo on Lake Erie from Cleveland to Erie last summer; the lines of both vessels being given. Two papers of exceptional value are those submitted by Naval Constructor D. W. Taylor, U. S. N., and Rear Admiral George W. Melville, U. S. N., in competition for the Stevens prize, the subject being "The Theoretical and Practical Methods of Balancing Marine Engines." Prof. H. C. Sadler has a paper on "The Effect of Variation of Dimensions on the Stresses in a Ship's Structure." The remaining eight papers relate mainly to warship and torpedo boat design, armor and shells. The method of side launching is very fully described by Asst. Naval Constructor W. G. Grosbeck, U. S. N.

LAUNCHES ON GRAVESEND BAY

The owners of power boats or launches in several of the yacht clubs in Brooklyn are talking of combining and forming a yacht club of their own from which all sailing vessels will be excluded. This does not mean, however, that a man owning a sailing yacht shall be barred from membership, but that this class of yachts will be ignored in all of the events of the club.

This has been brought about by the lack of consideration shown to the owners of launches by the officers of some of the clubs, as up to the present there have been no races arranged for these with the exception of one in the Brooklyn Yacht Club, which will be sailed on Saturday, August 9, and this was only brought about by the launch owners forcing recognition.

This matter is being seriously talked over, and before the snow flies such a club will probably be organized and located somewhere on Gravesend Bay. That the club will be a success is not doubted by the launch owners, who point to the fact that there are upward of a hundred launches of all sizes around Gravesend Bay. Many of the owners of these launches do not belong to any yacht club for the reason that this class of yacht is not recognized by the sailing yachtsmen, who look upon them much as a deep sea sailor does upon a river steamer. In organizing by themselves they feel that before long the new club will become one of the largest yacht clubs around New York, as of late a great many old yachtsmen are giving up their sailing craft, or having engines installed in them, as they have became tired of being forced at times to remain out all night when overtaken by a calm.—*Brooklyn Eagle.*

FROM TOLEDO TO NEW YORK

The steam yacht Vulcan, owned by J. H. Lowe, of Haverhill, Mass., has been in use on Lake Erie, at Toledo, but is now on her way from that port to New York. She is 60 ft. over all, with triple compound engines, and schooner rigged. On July 11 she left Toledo, with Captain Warren in command, running through Lake Erie to Buffalo, stopping at several intermediate ports. At Buffalo the stack was shortened several inches to permit her to pass under the canal bridges, her masts having been unshipped before leaving Toledo. She came through the Erie Canal to the Hudson.

Altair, steam yacht, E. D. Trowbridge, of New York, ran aground on the unbuoyed rock known as "Rock of All Nations" in Long Island Sound near Hart's Island on the evening of July 23, her owner being on board with a party of friends. The yacht was running very fast at the time, with the ebb tide, and she ran her bow clear out of water on the rock, the stern sinking until the after deck was awash. Mr. Trowbridge and his friends were landed on City Island by the yacht's boats and the Merritt-Chapman Wrecking Co. took charge of the wreck. The Altair is better known as the Orienta, designed and built in 1882 by the Herreshoff Mfg. Co. for the late Jabez A. Bostwick. She is of wood, 125 ft. over all.

On July 19 as the steam yacht Duquesne, James G. Butler, was off Norwalk Harbor in Long Island Sound a tube blew out in her boiler and scalded chief engineer J. B. Allen, oiler Hiram Farnham and fireman Isaac Farnham. Temporary dressings were at once applied and the wounded men were taken in to Norwalk by the gasoline oyster boat Commander, which was cruising near by. The yacht was uninjured and the men, though severely burned, will recover.

At the convention of the American Boiler Manufacturers' Association, at Atlantic City last week, the question of the revision of the U. S. laws governing marine boilers was fully discussed in connection with the report of the special committee appointed last year to investigate the subject. Strong efforts will be made to secure a thorough revision of the laws, which are long out of date and worse than useless when applied to modern marine practice.

Aria, steam yacht, has been sold by E. H. Blake, of Bangor, Me., to John R. Rhodes, of New Bedford. Mr. Blake has chartered the steam yacht Starling for the balance of the season and will replace the Aria by a larger yacht next year. Aria was designed and built by Chas. L. Seabury & Co., of Morris Heights, New York.

Eugenia, steam yacht, has been sold by John B. Herreshoff to Mr. Plant, of Florida. The yacht was built by Mr. Herreshoff several years ago for his private use and he has done a great deal of cruising in her.

Experiments are being made by R. W. Bailey and Oscar Perkins, of Gloucester, Mass., with a new form of cyclonic propeller. The wheel is being tested on a 25-ft. gasoline launch.

A report is current that in addition to collecting fast and costly motor cars Mr. Chas. M. Schwab has placed an order for a large and exceptionally fast steam yacht.

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INTERNATIONAL RACING

The winning of the Gordon Bennett cup by England has placed an entirely new face on the question of road racing, and opens up a long vista of promising possibilities, both of international sport and material benefit to the motor car industry. In spite of the participation of such foreigners as Vanderbilt, Foxhall Keene, Edge, Heath and Rolls, the great road races have been up to the present time essentially French affairs, and not strictly international, but the transference of the course for the one permanent international trophy to the other side of the Channel is likely to give the contest a truly international character; there will be a greater number of British entries, a smaller number of French entries, limited exclusively to those who propose to contest for this prize alone, and no one can doubt that America will be adequately represented. Instead of being a mere side issue of another event, the Gordon Bennett cup race might be made the great event of the motor world, the contestants representing in equal numbers the pick of three or four great nations.

One English concern, the Motor Power Company, builder of the Napier car which won the cup this year, has already announced that, in recognition of the great importance of racing wins, it will start at once on a number of racing cars, in anticipation of the race being held in England next year; these cars to be offered at a nominal price, presumably to racing men.

There is hardly a question that if it be known within a reasonable time that the race is assured, not only the racing amateurs of this country will make arrangements to enter, but American manufacturers will put in hand special racing cars to properly represent American construction. The one thing really necessary is the prompt completion, if in any way possible, of all arrangements for the race, first of which comes such legislative action as will nullify the existing laws against speeding on British roads. There is still much doubt as to what may be possible in this direction; but there is a chance that those in high authority who control the destinies of motoring in Great Britain may be awakened to the importance of the present opportunity.

The arguments against road racing, both as to its dangers and the direct influence of the types produced by such contests, have been set forth strongly at various times and they may be quite as powerful as some would have us believe; but the fact seems to be that the men who spend money in building racing cars, as well as the men who risk their lives in running them, are almost unanimously in favor of a continuance of the sport. At the present time, and for some years to come, in our opinion, the long distance road race may be made an important factor in the popularization and perfection of the motor vehicle. It is only necessary to turn to yachting to find proof of the inestimable value of international rivalry and racing as a stimulus to improvement. Not only has the present great fleet of yachts, steam as well as sail, sprung from the international matches for the America cup revived in 1885-6 and 7 with the Yankee yachts Puritan, Mayflower and Volunteer, but the advance in naval architecture thus inaugurated has contributed to the improvement of passenger steamers, war vessels and the fishing and pilot fleet. The one thing which lifted American yachting out of the slough in which it laid for twenty years up to 1885 was the effort to defeat England on the water; and though the conditions are different, the strongest hope for the rapid development of the American motor car lies in keen but friendly competition with both England and France.

It is true that such races as Paris-Vienna will not of themselves produce ideal road vehicles, possibly quite the reverse, but however indirect their influence may be, it is none the less beneficial. They attract the attention of the public to the new vehicle, they prove the possession of exceptional speed and endurance, they engender a keen competition among makers, and they lead in the end to substantial improvements in materials and shop methods. Theoretically it might be far more advantageous if makers could be induced to work together for improvement by means of concerted laboratory work, frequent meeting and scientific discussion; but as a matter of cold, hard fact more real progress results from such a hurly-burly as Paris-Vienna or Paris-Berlin than would otherwise be made in a decade of ordinary trade development.

We believe that an immediate announcement of the Gordon Bennett cup race over English roads next summer, if such were possible, would be hailed with delight by American, English and French builders alike, as well as by individual motorists of the three nations.

INSURANCE, DIRECT AND INCIDENTAL

Insurance agents in Connecticut are "viewing with alarm" the march of the automobile into popular favor and general use, and the growing practice of storing the machines in insured buildings. The question is now as to the rights of owners of the vehicles in storing them in structures that have been insured. Until the present season the only insurance policy in general use covered automobiles when stored in a single building. But the growth of touring made some other arrangement necessary, so a new standard policy has been devised and is now coming into use.

The new policy covers automobiles and motor cycles—together with all other vehicles propelled by gasoline and other fuel—while within buildings, from the risk of fire only; while on board railroad cars, against the risk of fire and derailment of cars only; while on board steamers, against marine perils only, including fires, unless caused by stranding, sinking, burning or collision with other vessels. It is also a part of the agreement in the policy that there shall be no liability for any claims arising from the explosion or burning of the gasoline, or other fuel, while within the automobile.

The rate on the new policy, which covers the vehicle wherever it may be, is 3 per cent.; the old rate, applicable to one building, was 2½ per cent. The old policy is still issued when desired.

There are certain interesting points about the new policy that have given rise to discussion. One point is that when a person is riding through the country and takes shelter in a farmhouse and stores his motor vehicle in the farmer's insured barn, and the barn burns while the machine is in it, the company would disclaim liability under the policy, while it would recognize liability for the destruction of the vehicle under the policy on the vehicle. In other words, to store an automobile in an insured building renders the policy on the latter void for the time being, unless a permit is given in advance.

Discussing the danger in handling gasoline, an insurance man says: "If you throw a half-teacupful of gasoline around a room, then go outside and thrust a lighted match through a keyhole, it will blow the windows out. A man was cleaning a settee in Philadelphia a few days ago, using gasoline. The vapor from the oil passed out of the room into a hallway, down a flight of stairs and to a light 60 feet away. The rear wall of the house was

blown out and—the man stopped cleaning the settee.

"That is why, because of the dangerous character of the fuel, insurance companies are so particular about storing motor vehicles. The vehicles are not necessarily unsafe, but the companies feel that they should be notified when policies now in force are affected by hazards that did not exist at the time such policies went into effect."

RESOLVE AND ACHIEVEMENT

Though robbed of some of its force and directness in the process of translation, the story which we print on another page of the personal experiences and particularly the thoughts and emotions of the winner of the great road race gives to the outsider a better idea than anything previously published of what such a contest really is. Plain, unpretentious, but, above all, graphic and convincing, the narrative discloses Mr. Renault as no less able as a writer than as a designer, constructor and driver of fast cars. It carries with it one great lesson, if no more—the same as the world-famed "Message to Garcia." Mr. Renault started from Paris to get to Vienna, in the lead if such an apparent impossibility were at all possible, but above all else to get there. In spite of obstacles which are only indicated in his story, he did get there, and in the lead at that, and he well deserves the rewards which are likely to accrue to him.

THE FRENCH "VOITURE LEGERE"

The little car which we illustrate this week belongs to the class known in France as the "Voiture Legere," so frequently mentioned in the reports of French races. The limit of weight for this class is 650 to 700 kilograms, or 1,430 to 1,540 pounds. There is no exact English equivalent for this "light carriage," nor for the next class below, the "voiturette," a four-wheeled carriage of not over 400 kilos. or 880 pounds weight. The drawings and descriptions in the first pages of this issue are perhaps the best possible definition of the exact meaning of "voiture legere."

A SCARCITY OF GASOLINE

Up to the present time the users of motor cars and launches have had no occasion to worry over the supply of fuel, but according to the report of a correspondent, on another page, this commodity now promises in one locality where it is much in demand to be as scarce as hard coal. The universal and extensive use of internal-combustion motors in vehicles, launches and for stationary power makes the question of a cheap, reliable and abundant fuel only second to that of the coal supply. Thus far gasoline has proved satisfactory in all of these respects, but the present scarcity is a warning that it cannot be implicitly relied on, and that it is most important that experiments with other fuels should be encouraged.

POPULARITY IN PITTSBURG

The Demand for Vehicles Is Remarkable—Two Fine New Stations Are Just Completed and One is Opened by Public Reception

PITTSBURG, Pa., July 28. (Special Correspondence.)—So great has become the demand for motor vehicles in Pittsburg during the past few weeks that, although this city now boasts half a dozen hustling dealers representing the largest manufacturers in the world, every one is behind his orders and cannot hope to catch up much before the end of the season. Last week Banker Brothers alone received thirty-five Peerless motor cars. Not all of these were sold in Pittsburg, as several were shipped to the stores in Philadelphia and New York, but this is only one of several makes that the company is selling. The Bankers have received and sold within the past month twenty-three Pierce machines and sixty-five Oldsmobiles in addition to the De Dions of all kinds that came in. Arthur Banker says they will put out sixty-five Peerless machines this season if they can get the deliveries.

Pittsburg Automobile Co's New Station

Further evidence of the unprecedented business that the local dealers are doing is manifest in the erection by several of new buildings to accommodate their increasing trade and material enlargements of their present plants by several others. The most notable improvements have been made by Pittsburg Automobile Co. and the Seely Mfg. Co., which have both gone to great expense in putting up modern buildings. The former's new building is said to be the third largest of its kind in the country. It is 120 by 130 ft. and one story high. The floor space is sufficient to house 120 machines without crowding. Besides this the main structure encloses the company offices. At present the charging plant and testing apparatus are being installed and every convenience is provided for the comfort of those who store their machines there. The building formerly occupied by the company is being used as a machine shop.

The company gave a reception last Saturday at the new repository which was attended by a large crowd. The place was decorated with potted plants and American flags, and there was music by a band. All the machines in the place and many of those belonging to patrons of the company were turned over to the visitors, and every one who cared to go was taken for a ride over the boulevard or through the parks. Several of the representatives of manufacturing plants took advantage of the opportunity to do some business for their houses. Mr. Cryder, of the Automobile Co. of America, was present and said that his company is building a lot of new racing cars that "will do some stunts in the speeding line," but are too heavy for ordinary use over the hills in this vicinity.

Mr. Goos, of the Baker Electric Vehicle Co., was another interested guest.

The White Sewing Machine Co. was represented by Windsor T. White, of Cleveland, who came down to look over the building and gain some points regarding its construction. The White company is to erect a new repository, and Mr. White said, after seeing the building, that it was just about what they need in Cleveland.

Considerable interest is being manifested by local chauffeurs in the announcement recently made by the Banker Bros. Co. that it would have on the market next season a racing car to be known as the Banker. The lines and construction of the proposed machine were decided upon recently by Arthur Banker when he was in the East. It will somewhat resemble the famous Renault car which won the Paris-Vienna race and the motor will be made by the De Dion company of France.

The Handsome Seely Garage

The building just completed by the Seely Mfg. Co. is one of the most complete of its kind in the country. It has an 80-ft. front on Baum St. and is 100 ft. deep. It is a handsome structure of Swiss architecture and Pompeiian brick, with white stone trimmings. As the roof is arched there is a convenient absence of posts in the interior. The floor is of granulated cement, giving it a smooth surface. It is the intention of the company to conduct a school for ladies who do not care to receive their first lessons in driving in the parks or on the streets, where they may be the object of curious eyes. The building is equipped with nine charging stations of the latest Westinghouse pattern.

Good Field in West Virginia

Captain A. V. Crookston, of the Pittsburg Automobile Co., spent part of last week in Wheeling, Cameron, Moundsville and other West Virginia towns, where he gave demonstrations with a White steam carriage and got much free advertising from the papers, as his demonstrations were something entirely new. He sold the sample White to a merchant in Moundsville and drove it from Wheeling to Moundsville, a distance of 18 miles over the West Virginia mountains, in 1 hour 45 minutes. One must have gone over those hills to appreciate this feat. Upon his return Captain

Crookston said that there is a big field for trade all through the West Virginia oil district, where money is plentiful. It is likely the Pittsburg Automobile Co. will open a branch house in Wheeling.

Some of the manufacturers have notified local dealers that no more orders can be taken care of this year and have instructed them not to receive any. The other manufacturers, although making no such statement, are known to be in about the same position and the chances of getting new machines seem to be very poor. For this reason many deals have been made during the past few weeks between those owning machines and those wishing to become owners. A. B. Cleveland, of Uniontown, was in the city last week and although he had driven his vehicle over 2,000 miles of mountainous country near his home, he sold it for $2,500. There are many prospective buyers whose names are in possession of the local dealers who are ready to put up $1,000 cash any time for immediate delivery.

Conrad Agency

The Pennsylvania Electric and Railway Supply Co., which has been making tests of the Conrad machines in this part of the country for some weeks, has opened a store at 559-61-63 Seventh Ave. This location is within three minutes' walk of City Hall and within a stone's throw of the western end of Grant Boulevard—an ideal situation for such a store. Its station is equipped to take care of a large number of vehicles and there is a good repair shop in connection.

CLEVELAND'S NEW STATION

Downtown Depot Will Be a Winton Branch Managed by Shanks Brothers—Automobile & Cycle Parts Co. to Change Name

CLEVELAND, Ohio, July 28. (Special Correspondence.)—Charles B. Shanks has changed his plans somewhat in regard to the store which he proposes to open in the downtown section of the city. The establishment will be a Winton branch owned and operated by the Winton Motor Carriage Co., with Mr. Shanks as manager. Although the deal has not yet been closed, it is safe to predict that the new store will be located in the Masonic Temple building opposite the Hollenden Hotel and within a stone's throw of the Public Square. The store will be one of the finest and most complete to be found anywhere. The front of the establishment will be used for a salesroom, and in the rear there is space for the storage of a large number of vehicles. The basement will be utilized for a repair shop that will be complete in every detail.

Headquarters for Supplies

It is Mr. Shanks' intention to make this the headquarters for motor vehicle supplies in this section. Accessories of all kinds will be carried and arrangements will be made with one of the leading tire manufacturing concerns to conduct a retail salesroom and repair shop in connection with the establishment. The mechanical end of the establishment will be in charge of A. D. Shanks, a younger brother of Winton's right-hand man, and one who has had considerable experience in the business through his connection with the Chicago branch of the Winton company.

Charles B. Shanks has laid out a campaign which will make him one of the busiest men in Cleveland. In addition to managing the Cleveland store, he expects to continue as editor of the Winton house organ, *Auto Era*, to act as western distributing manager for the Buckmobile Co. (although the latter machine will not be handled at the Cleveland store), to handle the advertising of the Winton company, take occasional record-breaking and racing tours with Mr. Winton, and to act as chairman of the race committee of the Cleveland Automobile Club.

Big Premiums for Used Vehicles

Stories of premiums offered for touring cars are common at Winton headquarters these days. George W. Hayden, of Chicago, recently wrote the company inquiring whether it would be advisable for him to accept an offer of $2,500 for his touring car, driven more than 2,000 miles. The company replied that it could not accept his order for another machine for delivery this year, but could make delivery early next spring. Accordingly Mr. Hayden decided to let his machine go at $500 profit.

The Federal Mfg. Co. Succeeds

The Automobile and Cycle Parts Co. announces that after August 1 the concern will be known as the Federal Mfg. Co. While motor vehicle and cycle parts have been leading products of this company, they are not at the present time the predominating products, as various other lines are fast becoming more prominent; hence the desirability of changing the name. The new company will make sheet metal products of all kinds, from lady's curling irons, which are produced in enormous quantities, to trolley poles for electric railroads. The company's factories are being reorganized and each plant will be devoted to a certain line of products. It was found recently that some of the factories were producing similar lines and were getting into competition with each other. The management of the company will continue as heretofore.

Mentioned Briefly

Quilling Brothers, formerly known as the Euclid Bicycle Co., have taken the agency for the Rambler, until recently in the hands of the Cleveland Automobile and Supply Co. Quilling Brothers have sold twenty-six Geneva steam vehicles since introducing them here.

The Hoffman Automobile Mfg. Co. has the first model of its gasoline vehicle well under way. The vehicle is equipped with a single-cylinder motor. It will be built to sell at either $750 or $800. About twenty-five of the company's steam vehicles are ready for assembling.

George H. Bowler, 513 Williamson Building, a leading machinery dealer, has opened a warehouse at 59 and 61 South Water St., which has been stocked with a large number of machine tools adapted for motor vehicle work. They constitute the equipment of four dismantled bicycle plants which have recently been bought up by Mr. Bowler.

The Eastman Metallic Body Co. is considering a proposition to locate its factory at Wooster, Ohio. The company is desirous of locating in some growing town where citizens will become financially interested in the corporation.

MILWAUKEE SALE CONFIRMED

MILWAUKEE, Wis., July 26. (Special Correspondence.)—The sale of the last assets of the Milwaukee Automobile Co. to Herman Falk was confirmed a few days ago by Judge Seaman, of the United States court. The appraised value of the property, which consisted of uncompleted vehicles and parts, machinery and tools, was $8,700. It was sold for $925.

Mr. Falk, who was one of the stockholders of the defunct company, said no plans have been made for disposing of the property which he bid in, but that it was not probable the plant would again be operated by the old stockholders.

Three attempts were made by the trustee, the Wisconsin Fidelity Trust & Safe Deposit Co., to sell the property of the company. At the first sale there was only one bidder, at the second two and at the last three. Since the first sale, however, the trustees had sold at private sale goods amounting to $2,100 at the appraised value.

Seventeen models of Columbia vehicles are described in the 24-page catalogue of the Electric Vehicle Co., of Hartford, Conn. These include various styles of runabouts, victorias, surreys, cabriolets, tonneaus, broughams, ambulances, delivery wagons, etc. The electric opera 'bus (Mark XI) and the electric ambulance (Mark XI) are of especial interest, as are also the runa bout and victoria (Mark XXXI) and the electric tonneau, all with divided batteries whose weight is evenly distributed on both axles. The gasoline runabout (Mark VIII) with rumble seat and wheel steering, is also shown.

"Pump Points" is the title of a pocket-size booklet issued by the Reason Automatic Air Pump Co., of Detroit, Mich., to explain in an easy, conversational way the need of a device for maintaining a steady air pressure in the tank of steam vehicles and the method of operation of the pump manufactured by it for this purpose and for use as well in launches. The Reason pump attaches onto the rear axle of the vehicle and is operated by means of a cam plate on the differential.

NEW ENTERPRISES

The Newburyport, Lowell and Boston Palace Car Co. has been incorporated in Maine with $100,000 capital stock for the purpose of establishing a motor stage line between Boston and Newburyport by way of Lowell and Lawrence. Officers of the company are as follows: President, H. H. Hobbs, of Haverhill; vice-president, George E. Kerrigan, of Haverhill; corporation lawyer, Charles C. Smith, of Kittery, Me. Stock in the company will be held by persons in nearly all of the towns in the Merrimack Valley. An order has been placed with a Chicago concern for six motor coaches with a seating capacity of thirty persons each, but it is not expected that the necessary equipment will be received so as to have the line in operation before next March. It is intended to make hourly trips.

The Merchants' Mobile Delivery Co. was recently incorporated in Denver, Col., with a capital stock of $50,000. The incorporators are: John Brisben Walker, James R. Walker and Alfred C. Phelps. The Colorado Mobile Co., of Denver, was also incorporated by the same parties. Capital stock, $60,000.

The Berg Automobile Co. has been incorporated in Jersey City, N. J., for the purpose of manufacturing motor vehicles. The company is capitalized at $400,000, and the incorporators are: John Wylie, Aug. Treadwell and James E. Hays.

It is reported from West Bay City, Mich., that a $30,000 stock company is being organized in that place for the purpose of manufacturing motor vehicles. The parties interested are said to be negotiating with Howad Coffin, an engineering student of Washtenaw, Mich., who has built for himself a new carriage in which the arrangement of the working parts is a model in economy and effectiveness, to take the management of the concern.

A line of new motor vehicles will soon be in progress of manufacture at the plant of the Biddle Mfg. Co., in Knoxville, Tenn., under the direction of John Biddle, who has been modeling and perfecting a machine for some time past. The machines will be of the gasoline type and probably large, powerful cars.

C. A. Kurtz, of Fort Wayne, Ind., is conferring with business men in Marion, Ind., with a view of establishing an automobile stage line to replace the old horse stage running between Marion and Huntington. The stages contemplated will be of the gasoline type and will accommodate fifty persons. Baggage wagons will also be operated if the project is successful.

The Oldsmobile Co. of Great Britain, Ltd., was registered on June 14 with a capital of £3,000 in £1 shares. The directors are: P. J. de Galindez, J. de Galindez and F. W. Peckham. C. E. Shaw, of Detroit, Mich., recently sailed for London, where he goes to assist Mr. Peckham in pushing the Oldsmobile. Mr. Shaw was at the head of the testing department at the Olds Motor Works in Detroit.

A concern in Jersey City, N. J., has started the manufacture of wood mud guards to replace the metal ones now in common use. The advantages of the wood guards are that they take a handsome finish and are practically noiseless.

The Amsterdam Automobile Works has been incorporated at Amsterdam, N. Y., with Timothy H. Pettengill, formerly an employee of the General Electric works, as vice-president. A sample vehicle is being made, which will use many of Mr. Pettengill's patents.

The Pomeroy Motor Vehicle Co., of Brooklyn, has been incorporated with $120,000 with directors named as follows: B. H. Pomeroy, J. L. Lazell and C. D. Winfield, all of Brooklyn.

The Mississippi Valley Automobile Co. filed incorporation papers on July 22 with the recorder of deeds in St. Louis. The paid-in capital stock of $48,000 is divided into 480 shares at $100, owned by H. S. Turner, Jr., Max R. Orthwein, Ralph H. Orthwein, H. M. Coudrey, George A. Meyer and Henry Koehler, Jr. Articles of incorporation were also filed for the Automobile Renting Co. of St. Louis, whose $2,000 capital stock is owned by the same parties. The objects of the latter concern are to manufacture, sell and rent motor vehicles.

MELANGE OF TRADE BREVITIES

Steam tonneaus, designed by William M. Gage, of the United States Hotel, in Saratoga Springs, N. Y., are to be made in Saratoga Springs, according to a local paper, which describes these new machines as having running gears 82 in. long, mounted on 28-in. wire wheels, with 52-in. tread; seating capacity of body, from two to six; vehicle equipped with 12-h.p. engine, capable of driving the machine at from 25 to 30 miles; boiler of special construction, able to stand 1,500 lbs. cold-water pressure, and located under the motor hood in front, where the occupants will be safer, and where the boiler will be more accessible by merely raising the hood.

Edward Cowan has bought from James A. Turnbull, Jr., the automobile station at 36 and 38 Dwight St., Springfield, Mass., and will run it as a repair station and stable for private cars. The station was operated by the firm of Cowan and Turnbull until last January, when Mr. Cowan sold his interest to his partner, who ran the business until a short time ago, when the latest transfer was made. The place is well equipped for charging storage batteries and is kept open day and night.

The new wing of Grout Bros.' factory at Orange, Mass., is completed and occupied. The new addition is 120 x 50 ft., two stories high and built of brick. The southern end of the ground floor has a concrete floor and is used for washing carriages. The remainder of the floor is used entirely for the enameling department while the whole upper floor is used for painting and varnishing.

The Waverley automobile department of the International Motor Car Co. has published a booklet giving a list of electric charging stations in and around New York City, including points up the Hudson as far as Peekskill and Tarrytown, practically the whole of Long Island, Tuxedo and stations all along the Jersey coast and interior points of Jersey.

The Auto Livery Co. has succeeded Messrs. Ryas & Thies, of Los Angeles, Cal., and will continue the automobile storage and repair business at 331 South Main St., that city.

A new 12-page pocket size booklet just issued by the Haynes-Apperson Co. describes the improvements on the 1902 models of the Haynes-Apperson cars and shows also in half-tone engravings from photographs an external view of the company's Kokomo, Ind., plant with new addition (described in the Trade News department in this issue) and interior views of the new addition.

NATIONAL ASSOCIATION OF AUTOMOBILE MANUFACTURERS

OFFICERS

President, Samuel T. Davis, Jr., Locomobile Co. of America, New York.

First Vice-President, A. L. Riker, Chicopee, Mass.

Second Vice-President, Dane. E. Rianhard, Overman Automobile Co., New York.

Third Vice-President, H. Ward Leonard, Ward Leonard Electric Co., Bronxville, N. Y.

Treasurer, Percy Owen, Winton Motor Carriage Co., Cleveland, Ohio.

Assistant Secretary, Harry Unwin, 7 East 42d Street, New York.

Executive Committee—Samuel T. Davis, Jr.; Dane. E. Rianhard, Chas. E. Duryea, A. L. Riker, W. C. Baker, H. Ward Leonard, Charles Clifton, J. Herbert Ballantine, John H. Flagler, John Brisben Walker, Frederic Martin Lande, M. J. Budlong, J. Wesley Allison, Alex. Winton, J. W. Packard.

As a result of representations made by the National Association of Automobile Manufacturers regarding unreasonable insurance and freight rates on motor vehicles, underwriters have made a 50 per cent. reduction in marine insurance to N. A. A. M. members, embracing most of the transatlantic lines and covered ports of the Mediterranean, the United Kingdom and the continental coast between Bordeaux and Hamburg, as well as Australia and New Zealand.

THE BENNETT CUP RACE

Abstacles in the Way of an International Contest in 1903—Local Prejudices Against the Motor Cars—Failure of the Electric Trials

LONDON, July 12.—British motorists still continue to discuss the success of Selwyn Edge and the Napier in the Gordon Bennett race. Those inimical to the Napier interest—and I regret to say there are many, for success breeds quite as many enemies as friends—have the word luck always in their mouths. If—they speak always in the subjunctive mood—if René de Knyff's countershaft had not broken, if the two other Panhards had not failed, the Napier would have been ignominiously beaten! But the facts remain that René de Knyff's countershaft did break, that the other two Panhards crumpled up more or less, and that, as I have it from Mr. S. F. Edge, the gear-driven Napier went through without a touch of spanner from start to finish. And this Napier was practically an experimental machine, but so well and so soundly built withal that she sustained the frightful hammering of the roads between Belfort and Vienna, for Edge drove right through without mishap.

The readers of the AUTOMOBILE AND MOTOR REVIEW are doubtless ere now familiar with the full details of the atrocities of the route. Drivers such as Messrs. Edge, Jarrott, Zborowski and others say that the memory will never pass from them, and that the men who selected roads furnished with "*dos d'anes*" at frequent intervals, both up and down hill, were worse than lunatics. Indeed, they approached the criminal, for in asking men to race high-powered automobiles over such a death-trap as the Arlsberg, they were provoking and urging men to their destruction.

The British Outlook

By the rules of the race the cup must always be competed for in the country of the club by which it is held, so that much speculation is now rife among English motorists as to wnether, by hook or by crook, by intrigue or favor, the race can next year be brought off in this country. To do this it would be necessary that the police should absolutely neutralize sections of the road between certain hours, and that after a reasonable time in each section no automobile should be presumed to be taking part in the event. But the county police, in whose hands the matter would rest, are controlled by the county magistrates, who number among them the bitterest, most prejudiced and most rabid opponents which motoring possesses in this country. Whether it is possible to convey to the mind of an obstinate and purblind squirearchy some faint glimmering of the incalculable benefit the holding of this race would prove to the automobile industry of this country, is now the question. The roads and the organization and the necessary sporting feeling to carry out such a contest we possess in plenitude; what bars the way at present, is just that crass, dogged, sullen obstinacy which at times saves great situations, but does not make for progress and advancement. The event could be run from Edinburgh to London, or Preston to Glasgow and back, of course, with proper neutralization, but I fear that something like an act of Parliament or the resignation of the government will be necessary to enforce the importance of the matter upon the whole community. However, we shall see what we shall see, and for the moment the question is upon the knees of the gods.

New Laws for Motorists

The act of Parliament, backed by a pioneer automobilist, who is also editor of a new *Locomotion* picture paper, produced for the edification of the "classes"—the Hon. J. S. Montague, M.P.—which proposed, among other things, a most undesirable system of numbering and registration of motor cars, has, owing to pressure of Parliamentary business, most happily been dropped until next year By then the prejudices against automobiles will still further have worn off, and the promoter of the measure may be able to delete this most offensive and un-English clause.

The proposed act is being steadily opposed by the whole automobile community. This precious measure does not wait for those opposed to and prejudiced against automobile traffic to suggest the numbering of automobites, but actually presents a clause which makes the numbering and registration of every car compulsory. Such a clause as this is nothing else but a sheer opening of the arms with demand for trouble, for trouble compared to that which now assails the chauffeur will be as a mountain to a molehill is certain to follow in the train of this bill. The exhibition of the numbers from cars places the unhappy automobilist completely and entirely at the mercy of any prejudiced person, or lying policeman, prompted by bitterness, or urged by a desire for promotion.

In the issue of July 12, the *Autocar*, in a smartly written leader, threw up into high relief the futility and the perils which attend this precious act, and the views of that journal, which may be taken honestly to represent the views of the large majority of the automobilists of this country, are this week most strongly indorsed and supported by the *Automotor Journal*.

The Electric Trials

The manufacturers and importers of electric vehicles here do not appear to be at all keen on the trials of such vehicles proposed to be held July 21 to 26. Up to last night, the eve of the closing of the entries, not a single entry had been received at the Automobile Club offices. And yet, the complaint of the electrically disposed among the members has been that the club showed altogether too much favor to petrol and steam driven vehicles, and but little to those driven by electricity. Unless entries come in rapidly to-day and in sufficient number to make it worth while to hold the week's trials, they will be dropped. This is to be regretted, but the electric vehicle people have only their own lack of enterprise to thank for it.

LONDON, July 19.—The electric vehicle trials to have been held on July 21 and six following days have fallen through, as I suggested was possible in my last. Barring the increasing employment of electric broughams, which are now jobbed by many people from a company formed for the purpose and run by Mr. Paris-Singer, the electric vehicle is little used here. These cars are all built on your side, and to my mind, are not particularly taking in appearance. They present the outward aspect of a superlatively finished growler of heavy and cumbersome appearance, from which the horse has run away. They are all fitted with solid rubber tires, and while some run quietly, others, presumably those that have been in use for some time, make a good deal of noise. The drive is from the motors to the road wheels, through toothed gearing, a pinion on the motor shaft and an internally toothed spur wheel bolted to the spokes, and this gearing seems to wear. Moreover, they are not at all fast, but as they are intended for town use, this is perhaps not a matter of moment. However, the fact remains that the Automobile Club's trials for electric cars are off for a time, anyhow. You really must back up Mr. Edison with that much-paragraphed accumulator which is neither so deep as a well nor so wide as a church door. The whole question comes back to what one of our leading automobile scientists let fall some time since upon the occasion of the reading of a paper on electric propulsion: "What is now wanted in connection with this question is discovery, not invention." It is the pressingly required discovery that we hoped Mr. Edison had made; indeed we still hope, and look to him as much as to anybody to solve this.

much-vexed question of accumulators. Perhaps he has already done so.

Goodyear Tires in England

It may interest you to know that the Goodyear pneumatic tires are rapidly growing in favor in this country, particularly for the heavier classes of vehicles. Those of the type marked by the Goodyear people "English Flintproof" are certainly true to their branding, for I have lately examined many sets that are being run daily over considerable distances on the very trying and puncturesome, flinty surfaces of the roads of Surrey and Sussex, and have marveled to note what slight signs of wear they show. The Goodyear Company has done wisely in entering these tires for the pneumatic tire trials, and from what I have seen I fully expect them to come out with flying colors from any ordeal the competing tires may be subject to.

Mr. S. F. Edge and Mr. Montague Napier, the driver and constructor of the Gordon Bennett Cup victor, are to be lunched on Tuesday next at the Hotel Cecil by The Motor Manufacturers and Traders Ld., and dined the next evening by the Automobile Club at the Hotel Metropole in honor of their achievements.

THE LESSONS OF THE PARIS-VIENNA

Why the New Speed Cars Failed Where Other Cars Succeed—The Differances Between French and German Cars and Roads

PARIS, July 19. (Special Correspondence.)—The dust and fever roused by the gigantic road battle have abated; the atmosphere has cleared and quieted down once more; now is the time to philosophize over the venture and draw the lessons from facts.

That the motor industry at large, and more specially so the French industry, has scored a signal victory over prejudice and ignorance, is amply borne out by the simple figures. Last summer on the Paris-Berlin course hardly one-third of the field reached the goal. Now on the much harder Paris-Vienna course, out of 138 vehicles which started no fewer than 80 found their way to the Austrian capital, and out of these 80 vehicles 70 were of French origin. So the reputation of our national industry cannot but benefit from the net result, and once more does the French car stand right to the front.

Though our representatives have come with flying colors out of the ordeal, we will grant that they narrowly escaped an industrial Waterloo, which would have been but the not altogether undeserved reward of their levity and over-confidence. To be quite accurate, we will say that they looked at one time like being the victims of a gigantic *malentendu*.

A Mistake at the Start

Thus it came about: When a Paris-Vienna race was first spoken of, makers and sportsmen on our side blindly believed that the course would be a racecourse; that is, a road where the fastest car, providing it was not deficient in strength, was bound to score—as was the case in Paris-Berlin.

The event turned out this time altogether different. No one, and the winner himself, last of all, would contend that the car first at the Prater was the fastest of the lot—nothing of the kind, for this obvious reason: that instead of the supposed race, Paris-Vienna turned out an endurance contest, in the strictest meaning of the word. True, the fastest—I mean the Panhards—have won; but thanks less to any speed capacity of theirs. More to Zborowski's mistake, which cost him 28 minutes' penalization and first place. The Panhard men themselves make no difficulty in acknowledging that they didn't have matters all their own way to win, and that luck favored them to the end.

Endurance Better Than Speed

No blame can be thrown on the new Centaur motor, which has made good its claim to excellence in distance work. That applies specially to the transverse spring which came in for so much adverse comment on its introduction in the motor world. Its last achievement will have served to silence adverse criticism. Most of these big vehicles, which on the bad parts of the roads were handicapped by their great speed powers, managed to go right through the journey and none of their transverse springs have given way. On the Paris-Berlin course there is not the shadow of a doubt that they could have won in the commonest of canters; in fact, as easily as their ancestors, the glorious old 12-h.p. cars of times gone by.

What is the reason of their failing to maintain right up to the last that advantage which they had so brilliantly gained on the first stage of the race, and to finish in a heap, all to the front? Paradoxical as it may sound, the main reason of their partial failure was their very speed and force. Like so many thoroughbreds, it was harder for their drivers to hold them back than to let them have their own way. They could not be driven to their natural limit, owing to the wretched state of the roads, and suffered accordingly. The men at the helm, the Farman brothers, Pinson, Chauchard, Jarrott, and all the rest of the fast brigade, have not been slow to say that the chief difficulty of the task lay in their restraint of speed.

The Success of the Mercedes

There, too, lies the reason of the Mercedes' splendid show in the second half of the journey. The course was well known to the engineers from Canstatt: it was unknown to ours. That's all. The former knew what they were about; the latter stood in deep ignorance of the battlefield. To an interviewer who was inquiring why the Mercedes' firm was not officially represented in the race, the questioned party jokingly replied: "Our amateurs are quite good enough for the task. These roads are not made for you." Just so! The facts have very nearly justified the joke. Zborowski and de Forest were little better than novices compared to these past and present masters in the art of steering a firehorse; de Knyff, Farman, Jarrott, Pinson; and yet the novices more than held their own when pitted on Austrian ground against our best. A quelque chose malheur est bon (good may arise from evil), as the French adage goes. The sterling excellence of our vehicles was borne out in a more decisive manner by the victoriously facing such unlooked-for difficulties as the Arlberg or Innsbruck roads. The 1,000 kilos. limitation rule has been conducive to fine mechanical feats; too fine, maybe, for we have been courting disaster. Disaster was changed into triumph. It wouldn't be wise, though, to have several editions of this kind of farce which consists in making a discovery or exploration journey on the occasion of a race, for that's the story of the Frenchmen race, if it may be so termed. When people are invited to race they should, in fairness, be informed that they will have to jump hurdles and cross ditches and get over fences, for, while they may come unhurt and victorious out of the ordeal, there is just a chance, too, that the reverse will be the case.

To put the matter in a nutshell, we must either stick to French roads—that is, to roads where racing is possible—or we must say farewell to speed.

And above all things, when we do promote a race, let us not have 312 kilometers of neutralized ground in one stretch, as those ridiculous and useless 312 Swiss kilometers which put such a strain on the nerves of a driver, who feels he is liable to punctures and breakdowns at every minute, and who knows that he cannot win the race, but may very well lose it through no fault of his.

Operators of motor vehicles have been invited by the manager of the third-mile race track, at Manhattan Beach, L. I., to try their machines on that oval with a view to holding races there this fall. Manager Schofield has negotiated the turns himself satisfactorily in a self-propelled carriage, although the turns are so banked to hold a speed of only 1.26 to the mile. The course is amply wide, but there is some doubt about the banking being sufficient for the four-wheeled vehicles.

Motor vehicles are prohibited from entering the Brooklyn Navy Yard after bell rings at night without permits, by orders posted Sunday at the entrance gates by order of the captain of the yard.

Automobilists in Worcester, Mass., are talking of starting a new club there or reviving the old club organized two years ago.

BUFFALO MOTORISTS PERTURBED

The Anti-Speed Question Is Under Discussion Underwriters Threaten to Increase Rates and Licenses May Be Required

BUFFALO, N. Y., July 28. (Special Correspondence.)—The lot of the local motor vehicle owners is troubled these days. First, the property owners adjoining the automobile stations complained against the storage of gasoline, then there were complaints against speeding, and the wholesale arrest of prominent residents followed, next came the sudden enforcement of the state law, requiring that motor vehicles carry lights at night, for violation of which several operators suffered the humiliation of being taken to the police station, and now the insurance underwriters propose to increase the rates on buildings in which machines using gasoline are stored. It has not been given out just what the proposed advance is to be, but from what can be learned it promises to be a stiff increase over the present rates, which are 40 cents per $100 on stone and brick buildings and 50 cents on frame structures for a period of three years. According to reports in automobile circles, the advance will amount to between 100 and 300 per cent. Local insurance men admit that an advance is probable, and that they are simply following a decision of the New York State Association to advance the rates on risks of this character.

Plan for Speed Regulation

The speed question is still the topic of the hour in motor circles, and various suggestions looking to a solution of the problem are being advanced. Ellicott Evans, ex-secretary of the Buffalo Automobile Club, believes he has a plan, which, if adopted, will alleviate the annoyance to which users are now being subjected. His plan is to have the city laid out in circles or zones, each to represent a specified speed limit. In the first, which he would have include the downtown or business section, the limit would be 8 miles, as at present. In the next zone he would have a speed of 12 miles and in the third, which would extend to the city limits, a speed of 15 miles would be permissible. This proposition is to be presented to the City Council at its next meeting, and it is believed that it will meet with approval.

Mr. Evans and many other members of the Buffalo Club do not favor the proposed plan of granting special licenses to physicians. Mr. Evans believes that if they were permitted to travel faster than 8 miles there would be too many urgent calls, and a big increase in the number of doctors would result.

Dr. Lee H. Smith, president of the Buffalo Automobile Club, sent a communication to to-day's session of the Board of Aldermen, suggesting that as at present there is no Buffalo ordinance fixing the speed at which motor vehicles may be operated, the council should revise the entire vehicle ordinance, and that the subject be referred to the committee on ordinances to give interested parties an opportunity for a hearing. The matter was referred as requested.

Proposal to License Vehicles

Another suggestion that is agitating motor vehicle owners and one that bids fair to become a law, it is said, is the proposal to require all owners of vehicles to take out licenses and exhibit conspicuous numbers attached to the rear axles of the machines. This matter has recently been taken under advisement by the authorities. With this plan in operation the officials believe the speeding practice will cease, as the numbers will make it possible for the officers to identify the operators. At present there is no way of identifying vehicles or their owners. Vehicles are marked with the owners' initials or monograms in compliance with the state law, but the police say it is impossible to distinguish them at night. Owners dislike the idea of having to carry a tag, as it is termed, and a protest will follow any attempt to make such a law.

A GASOLINE DROUGHT

The Supply of High-Test Fluid Is Nearly Exhausted In Connecticut Town Where It is Bringing 20 and 25 Cents

NEW LONDON, Conn., July 30. (Special Correspondence.)—Unless unforeseen sources of supply are discovered New London and vicinity will be suffering from a gasoline drought before the close of the week, for the visible supply of high-grade oil, 74 test, has dwindled to the point where it is measured by quarts, and there is nothing in sight that will relieve the pressure on the dealers for gasoline, nor meet the ordinary wants of owners of vehicles and launches. With the decline of the supply there has been a constant rise in price, and the end is not yet. At the tank stations of the Standard Oil Co. and the Lenox Oil Co. there is not to be had a single gallon of 74 test gasoline, and the agents here cannot state a date when their tanks are likely to be replenished. Gasoline of '63 and 68 test can be had in almost any quantity, but the Lenox company refuses to take contracts to supply its high-grade oil and will be compelled to ask time of the customers now holding contracts for regular supply.

The reason given for the shortage is that the great increase in the use of motor vehicles and launches has caused a tremendous demand for the high test oil, and as gasoline is a product of petroleum, in the refining of which a very small percentage of high test gasoline is secured, there is not sufficient produced to meet the demand.

The regular price of high test gasoline has been 10 cents a gallon at the tank stations, but the last oil sold brought 14 cents there. Operators have secured small quantities, five or ten gallons, from dealers and automobile stations at 20 cents a gallon, but the price has been raised 5 cents. It is stated at the Lenox works that before the summer closes high test gasoline will bring 30 cents a gallon.

The price of low test oil has also taken an advance, but even at 11 cents a gallon no person of experience desires to use it.

FLEISCHMANN PUSHING ON

Undaunted by Almost Impassable Roads in Ohio the Cincinnatian Attacks the Pittsburg-Harrisburg-Philadelphia Route

PITTSBURG, Pa., July 26. (Special Correspondence.)—Max Fleischmann, the Cincinnati boy and relative of the Fleischmanns of New York, passed through Pittsburg last Saturday en route to New York. Mr. Fleischmann, who has done much automobile touring during the past two years, started from his home in Cincinnati on July 8 and is making the trip in easy stages. His only companion is Joe Bridges, his chauffeur. The trip from Cincinnati was made by way of Columbus, Wheeling, and over the old National pike through Washington, Pa. The worst roads he encountered were from Lancaster, Ohio, to Wheeling, W. Va.—a stretch of about 50 miles which is almost impassable.

Mr. Fleischmann is of opinion that great improvements can be made in the springs of touring cars, as he says every night he and Bridges were compelled to overhaul the machine and tighten every bolt that had been loosened by the rough jarring the machine was subjected to on bad roads. The only accident so far on the trip was a broken spring, which Mr. Fleischmann was able to repair himself. He left Pittsburg to go east by way of Uniontown, Bedford Springs, Chambersburg, and Harrisburg to Philadelphia, whence he will journey to the summer home of the Fleischmanns on the Hudson.

So heavy have been the rains in this district recently that touring is rendered almost impossible. The cross-country trip planned by Frank A. Brobst, proprietor of the Hotel Lincoln, and some of his friends, had to be abandoned at Rochester, Pa., the roads being in many places completely

washed away. At Rochester the party met another party that had come from Cleveland and gave such an account of the roads west to Cleveland that the Brobst party shipped their vehicles and went to Cleveland on the train. From there they intend touring through Ohio and Michigan.

A RACE IN THE ARDENNES

On Thursday of this week, July 31, there takes place a race arranged by the Automobile Club of Belgium, the course being a triangle of 85.40 kilometers (53 miles), covered six times, making in all 512.40 kilometers (318 miles). This course, lying on the borders of Belgium and Luxemburg, passes through an isolated and thinly settled country, with a few villages, and there will be no stops and no restrictions on speed. All the controls will be flying, the cars being checked as they pass at speed. The roads are reported as good, but the country is rough, with numerous hills. For a distance of 27 kilometers, from Bastogne to Longlier, the road is a part of last year's course from Paris to Vienna, but it will this time be traversed in the opposite direction so that the hill at Longlier will be passed on the upgrade instead of the reverse. The course is one that will call for bold but careful driving in places, owing to sharp turns and steep descents.

The cars, which are limited to eighty in all, are divided into four classes: the heavy class, of under 1,000 kilograms; the light class, of under 700 kilograms; the voiturette class, under 400 kilograms, and a special class of touring cars carrying four people and weighing less than 1.000 kilograms, this limit not including the tonneau or other body giving the third and fourth seats, the lamps and other fittings. There will also be two classes for motocycles and motocyclettes. The prizes range downward from 1,000 francs ($200) and a silver medal, there being five for each class. Most of the racing men, including W. K. Vanderbilt, but not including Fournier, have entered.

OHIO CROSSROADS ALARMED

CLEVELAND, Ohio, July 28. (Special Correspondence.)—Several small Ohio towns have recently passed ordinances that will not tend to increase the sale of motor vehicles in the "burgs." The conservative city fathers of Napoleon have ordained that no horseless vehicle shall go faster than 6 miles. No restriction is placed on horse-drawn vehicles, and the farmer who has a county fair winner is permitted to train on the streets with perfect freedom, while the automobile must not go faster than a live man can walk.

Ravenna, a village where grass grows in the streets, has gone this remarkable ordinance one better. In that town, if an operator is seen going faster than 5 miles an hour, he is liable to a fine of $100 or imprisonment in jail. On the other hand, Cleveland, a city of more than 400,000 inhabitants, permits a speed of 15 miles in all portions of the city, except the very heart of the business district, where 8 miles is allowed.

MOTOR VEHICLES IN ELMIRA

Elmira, N. Y., is fast becoming a city of automobiles. The self-propelled vehicles are here, there, and everywhere in the bustling little city, and the city fathers are beginning to wag their heads and prophesy grave accidents if something is not soon done to govern the speed of the machines. One of the town's most prominent liverymen has just contracted for public conveyances of the motor-driven type. They will be electrics and similar to those in use in New York. It is probable that the owners of motor vehicles in Elmira will get together and meet the city council in consultation before a speed ordinance is enacted. Possibly they will take a hint from Philadelphia automobilists and make demonstration of quick stopping, and by judicious handling of the law makers secure reasonable speed privileges.

NEWPORT NEWS NOTES

NEWPORT, R. I., July 28. (Special Correspondence.)—An electric vehicle owned by Miss Alice Roosevelt has arrived here and now awaits the coming of its fair owner, who is an expert chauffeuse and handles her machine cleverly.

Chief of Police Benjamin H. Richards has recently taken up the automobile for his private use. He is using a Baker electric runabout.

H. R. Winthrop has arrived for the season with his Winton touring car, which differs distinctly from other Wintons, as the body is painted light blue.

W. L. Stowe boasts of owning the 12-h.p. Rochet-Schneider car imported by Vice-President Ernest Cuenod, of the Swiss Automobile Club, and which won first prize for climbing Roslyn Hill in the open class in 1 minute 19 seconds in the Long Island endurance contest.

Fred Havemeyer, in his 16-h.p. Mors, collided the other day with J. Insley Blair, who was running his Panhard. No other damage was done than the tearing off of Mr. Blair's mud-fenders.

William Houck, of F. de Peyster-Hall and Co., is making a tour through New England in his new 24-h.p. Panhard.

Harold Sands, son of William Sands, of New York, is building a steam carriage with which he expects to cover a mile in less than one minute. It will conform, however, strictly to the requirements of a pleasure vehicle.

ERNEST CUENOD'S PROTEST

It has developed at this rather late day that, following the Staten Island speed trials on May 31, Ernest Cuenod filed a protest with the Automobile Club of America against awarding the prize in the middle weight gasoline class to Percy Owen, on the ground that he understood that the prizes were to be awarded for the times made in the first trial and that the second and third trials were to be merely exhibitions, whereas the prize was actually awarded to Owen on his second trial. Cuenod's time on the first trial was 1:22 4-5, against Owen's 1:25; while in the second trial Owen covered the mile in 1:17 3-5, against Cuenod's 1:26 4-5. A meeting of the race committee will be arranged within a few days to take action on the protest. It is doubted, however, that the protest will be sustained on the grounds stated, as the entry blanks and conditions for the event stated that a second, and, if time permitted, a third trial would be allowed to contestants. The medals for the mile trials have been ready for some time, but have not been awarded yet and will not be presented until the result of the protest is known. Mr. Cuenod sailed several weeks ago for Europe.

THE TOURING CHRONICLE

Mr. and Mrs. R. B. Holmes and daughter, of New York, were in Syracuse last week with their 14-h.p. Panhard-Levassor machine. They started from their home two weeks ago, coming up the Hudson on the boat. They went to Saratoga, where they remained two days. They then went to Syracuse by easy stages. Mr. Holmes says that the roads are outrageously bad in the Mohawk Valley. After making Buffalo, the party will return by the southern shore of Lake Ontario and the Thousand Islands. The machine has a canopy top and will seat five persons. The driver is Thomas McGowan.

Four separate touring parties from Chicago reached Waukesha, Wis., during the past few days and spent some time at the various hotels at that watering place before returning. The parties were invariably laudatory of the highways in Wisconsin. One member said they are the best he has found in this country, save in a portion of Massachusetts.

Frank A. Brobst, proprietor of the Hotel Lincoln, in Pittsburg, Pa., started with his wife on a 1,000-mile trip on the morning of July 20. They intend to make the complete circuit of Lake Erie and will go by easy stages, endeavoring to get as much pleasure out of the run as possible. The machine used is a White steamer of 6 h.p.

W. W. Keith, a Chicago grain broker, accompanied by his wife and an expert chauffeur, is making a trip from Buffalo to Boston in a 35-h.p. gasoline touring car.

Lyman C. Smith, the typewriter manufacturer of Syracuse, N. Y., accompanied by H. W. Smith, W. L. Smith and M. C. Smith, also of the Central City, made a run to Ithaca and return on Sunday, July 13, in the former's locomobile touring car. The Syracusans visited Leroy H. Smith in Ithaca.

ADDITION TO THE HARVARD SYSTEM

Ground has been broken on Winthrop St., in Salem, Mass., for an automobile station 60x136 ft. This will be included in the Harvard system, which embraces branches in Boston, Cambridge, Brookline, Newport and Providence, R. I.; New Bedford, Fall River, Waltham, Hartford, Conn.; Portland, Me.; Springfield, Mass.; Lowell, Arlington, West Medford, Marlboro, Worcester, Lynn and Salem. By this system an automobile owner stores his machine in any of the branch stations for a specified price per month, receiving a membership ticket which entitles him, while on a trip, to put up at any station on the list without charge. Repairs, cleaning and charging are included in the price of the ticket. The Salem station will be conducted by C. W. Ware, who reports that the building will probably be ready for occupancy by August 1.

BUSINESS MENTION

I. A. Weston and Co. are getting up a new artillery wheel to interchange with their wire wheels. These will be built in all popular sizes and fitted with rims to take tires up to 3-in. sections and perhaps larger. A catalogue is nearly ready. The firm has installed considerable new machinery recently. All the automobile work is now being done at Jamesville, the Syracuse factory taking care of the bicycle parts and other branches of the business. The company will hereafter sell direct from the factory and will have a salesman on the road. The business has heretofore been done through C. J. Iven and Co., of Rochester.

The Remington Automobile and Motor Co. is operating its new plant in East Utica, N. Y., thirteen and fourteen hours a day in order to keep pace with orders as nearly as possible. The company is also installing considerable machinery, several of the pieces having been already received. A handsome dos-a-dos machine has just been completed for a party in Fairbury, Ill. The body was manufactured after a special design. There are also several trim launches on the floor of the machine room, being equipped with Remington motors.

The Empire Repair and Storage Co., 132 West 49th St., is now the agent in New York for Gasmobile Company of America. The company is also agent for several good foreign vehicles and has a well-equipped station with facilities for the storage and repair of all kinds of power-driven vehicles. O. E. Vestal is manager for the company and Henry C. Cryder is treasurer.

A. M. Eames and Co., of South Framingham, Mass., are again enlarging their wheel manufactory. The making of wheels for motor vehicles has become an extensive part of their business and it is to accommodate this branch that the improvements are being made.

The Geo. N. Pierce Co., of Buffalo, has established a branch agency at 117 West Jefferson St., in charge of C. W. Frank. Mr. Frank is the general agent for Onondaga, Oswego and Cayuga counties. He has a Pierce motorette on exhibition.

The Standard Automobile Co. has installed a well-equipped machine shop at 136 West 38th St., New York, where it is prepared to adequately and promptly care for vehicles needing any new parts or repairs of any kind.

The Oldsmobile Co., in Cleveland, O., continues to sell machines at the rate of five or six a week. With the Oldsmobile it has become a case of "pay your money and wait your turn."

Manager Edward Blakely, of the New York Automobile Co.'s Newport branch, has the best patronage in Newport. The station is well filled and will soon have all the floor space occupied.

Index to Advertisers

Special Notices

Advertisements of second hand vehicles or parts for sale, or for Positions Wanted, inserted under this heading at 10c per line. Remittance must accompany copy.

FOR SALE—Winton Semi-racer. Used but little, mostly in racing. Very powerful, long wheel base, elegant dos-a-dos seat which can be attached in front or rear. Wheel steering, 150 tube water-cooler, and entire machine automatically oiled from one tank. Has made 40 miles per hour. Owner going North for the Season. Price $1000. Worth $1500. S. M. Watson, Jackson, Mich. 2

FOR SALE—GASMOBILE SURREY, with rumble seat. Finish white. 12 h.-p. motor; three cylinders, 4¼ x 4½. Two speeds forward and reverse, wheel steering. Tires, Diamond 32 x 4. Has been run less than 500 miles, and is in good running order. Very cheap. Must be sold at once. For particulars, address F. S., care of the Automobile & Motor Review, 395 Broadway, New York. 2

FOR SALE — One Style "A" Geneva Steam Runabout. Has run 1,100 miles; perfect in every respect; fitted with all the late attachments; cost $800; will take $485 cash, or trade for Winton or Haynes-Apperson tonneau. Write for full description. Robert Holmes, Danville, Ill. 2

FOR SALE — Mobile Touring Car. Capacity six persons, first class condition. For particulars, inquire Automobile Headquarters, Springfield, Mass. tf

WANTED — Winton Touring Car. State price and condition. Address Automobile Headquarters, Springfield, Mass. tf

Miscellaneous

HORSELESS VEHICLES — Automobiles and Motor Cycles, by GARDNER D. HISCOX, M. E. A practical Treatise for Automobilists and Motor-Cyclists. 460 pages, 316 illustrations. Price $3.00. Book Dept., The Class Journal Co., 395 Broadway, New York.

COMPRESSED AIR—Its Production, Uses and Appliances, by GARDNER D. HISCOX, M.E. Cloth $5.00, Half Morrocco $6.50. Book Dept., The Class Journal Co., 395 Broadway, New York.

FOR SALE—THE PRACTICAL GAS ENGINEER, by E. W. Longanecker. A manual of the practical management and operation of all classes of explosive motors using gas, gasoline and similar fuels. Describes the general construction, the installation, piping, ignition system and running of motors for shops, launches and motor vehicles. Sent upon receipt of $1.00. Book Department, Motor Review, 395 Broadway, New York.

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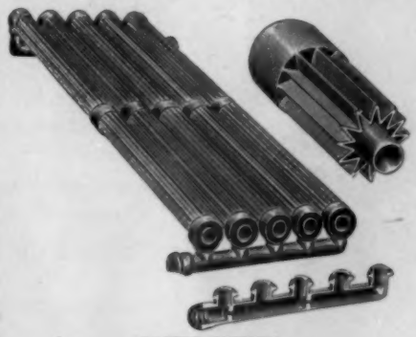

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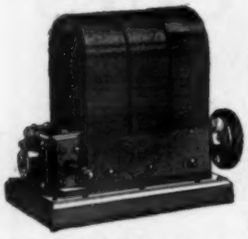

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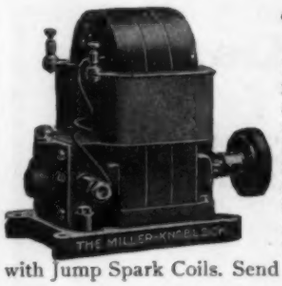

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